University of Portsmouth
Department of Psychology

Eliciting Admissions from Suspects in Criminal Investigations

SERRA TEKIN

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The thesis is submitted in partial fulfilment of the requirements for the award of the degree of Doctor of Philosophy of the University of Portsmouth.

Supervised by: Professor Aldert Vrij
Dr Samantha Mann
Dr Sharon Leal

General Abstract

The psycho-legal literature is scarce with respect to specific interviewing tactics aimed at eliciting new and critical information (admissions) from suspects in criminal cases. The first major aim of this thesis was to fill this void by introducing and testing a novel evidence disclosure tactic, called the SUE-Confrontation, which draws on the general principles underlying the Strategic Use of Evidence (SUE) framework. The comparative efficacy of the SUE-Confrontation interview was examined in a series of laboratory-based studies. In addition, a number of dependent measures was used to test the relationships between the principles behind the SUE framework. The participants either committed a mock crime (guilty) or performed equivalent noncriminal activities (innocent) divided into three phases, after which they were interviewed as suspects. The interviewer possessed evidence pertaining to two (less critical) phases of the crime, but lacked information about the third and more critical phase. For the SUE-Confrontation interview, the interviewer initially aimed to obtain verbal cues to deceit (statement-evidence inconsistencies) by using the evidence strategically. Thereafter, the interviewer used these cues (confronted the suspect with his or her inconsistencies) to elicit admissions about the critical phase for which the interviewer lacked information. In **Study I** (N = 120), the SUE-Confrontation interview was compared to two control interviews: Early Disclosure of Evidence and No Disclosure of Evidence. As predicted, the innocent suspects (compared with the guilty suspects) were more forthcoming regarding their activities related to the critical phase. No difference was found between the interview conditions with respect to the guilty suspects' forthcomingness regarding the critical phase. Nonetheless, the results were promising in terms of eliciting admissions through strategic interviewing. For **Study II** (N = 90), the interview protocols were revised. As predicted, the guilty suspects in the SUE-Confrontation condition (compared with the Early Disclosure and No Disclosure conditions) perceived the interviewer to have had more information about the critical phase and disclosed more admissions about this particular phase. In **Study III** (N = 75), the aim

was to improve the ecological validity of the tactic by providing the suspects with the opportunity to explain the discrepancies in their statements (labelled the SUE-Confrontation/Explain condition). The guilty suspects in the SUE-Confrontation (following the same protocol as used in Study II) and the SUE-Confrontation/Explain conditions combined (versus the Early Disclosure condition) overestimated the amount of evidence that the interviewer possessed about the critical phase. The SUE-Confrontation/Explain condition did not differ from either the SUE-Confrontation condition or the Early Disclosure condition with respect to the number of admissions made by the guilty suspects. Importantly, the SUE-Confrontation interview resulted in more admissions than the Early Disclosure interview. The second major aim of this thesis was to explore police officers' planned use of the available evidence to elicit admissions. **Study IV** was designed as a survey study in which police officers ($N = 69$) planned an interview with a suspect in a fictitious murder case. The investigators planned to disclose the evidence more often in a strategic manner (i.e. obtain the suspect's statement and/or exhaust alternative scenarios before revealing the evidence) than in a non-strategic manner (i.e. reveal the evidence before requiring an explanation). It was rare that the investigators planned to use the evidence pertaining to the less critical phases of the crime so as to elicit admissions about the critical phase (about which they lacked information). Taken together, this thesis demonstrates the development of, and support for, an effective evidence disclosure tactic for eliciting admissions from suspects. Furthermore, the findings lend support to the predicted relationships between the principles underlying the SUE framework. These principles can be tailored to meet the needs of an interviewer, and may be utilised in different criminal cases. Lastly, it is recommended that the SUE-Confrontation tactic be included as part of police officers' training on how to effectively conduct interviews with suspects.

Contents

Declaration

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.

Serra Tekin

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List of figures and tables

Abbreviations

ACID .....Assessment Criteria Indicative of Deception

CCTV .....Closed-Circuit Television

CI ……Confidence Interval

CIS ……..Cognitive Interview for Suspects

EFM …..……..…..……..Evidence Framing Matrix

GIS ..……..……..General Interview Strategy

ICC .....……Intra-class correlation

PACE …..…..……..Police and Criminal Evidence Act

PEACE ……..Planning and preparation, Engage and explain, Account, Closure, Evaluation

SUE …...……..……..Strategic Use of Evidence

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A new journey lies ahead now, and I am looking forward to it!

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Publications

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Chapter 1: Introduction

Consider a woman having been murdered. The crime took place sometime between 1.30 am and 2.30 am on a Sunday morning when she was walking back from a party. The subsequent investigation led to the arrest of a suspect. At the point of arrest, the police had no clear link between the suspect and the crime scene, and the suspect denied any wrongdoing. The police lacked information pertaining to the critical phase of the crime, i.e. between 1.30 am and 2.30 am, but possessed information pertaining to less critical phases. For example, they had several pieces of evidence about the suspect's activities before the crime (the suspect's internet browser history showed that the victim's Facebook profile had been repeatedly visited two days before she was killed) and after the crime (the suspect made two phone calls to a friend after 3 am on the night of the murder). This scenario mirrors features that are frequently encountered in real-life investigations. That is, investigators possess evidence on several less critical phases of a crime, but lack information about the most critical phase. In such situations, the information elicited from the suspect about the critical phase may be key to the investigation. How then should the available evidence be used to elicit new and critical information from the suspect? The goal of the current thesis is to provide an answer to this question.

The primary aim of a suspect interview is to collect relevant and critical information (Memon, Vrij, & Bull, 2003). If accurate and useable information is obtained, it can substantiate a suspect's innocence or alternatively his or her guilt later in court. There is increasing interest among psycho-legal researchers to find ways to gather information from suspects using effective and ethical methods (e.g. Meissner, Kelly, & Woestehoff, 2015; Walsh & Bull, 2015). The aim of this line of research is to offer approaches that may result in true admissions or true confessions (Meissner, Hartwig, & Russano, 2010). For instance, humane approaches (e.g. rapport building) have been found to be more effective for collecting information than dominant approaches (e.g. pressing for information) (Alison, Alison, Noone, Elntib, & Christiansen, 2013; Evans et al., 2013; Mann et al., 2013). However, these approaches are rather broad, and the literature is scarce with respect to specific tactics for eliciting new and critical information (admissions) from suspects.

Evidence plays an important role in information elicitation (Bull, 2014). In a majority of criminal cases, the interviewer possesses some incriminating evidence against the suspect (Wachi et al., 2014; Wagenaar, van Koppen, & Crombag, 1993), and uses this evidence in the interview (Hill & Moston, 2011; Kelly, Miller, & Redlich, 2015; Sellers & Kebbell, 2011; Soukara, Bull, & Vrij, 2002; Soukara, Bull, Vrij, Turner, & Cherryman, 2009). Given this, researchers have paid considerable attention to the impact of evidence disclosure on interview outcome. The work has focused primarily on how to use the evidence to: (a) obtain confessions (e.g. Jordan, Hartwig, Wallace, Dawson, & Xhihani, 2012; Kelly et al., 2015; Soukara et al., 2009); (b) assess veracity by obtaining verbal cues to deception and truth (e.g. Dando & Bull, 2011; Hartwig, Granhag, Strömwall, & Vrij, 2005); and (c) obtain more comprehensive statements (e.g. Walsh & Bull, 2010; 2015). However, very little is known as to how to use the available evidence effectively to elicit admissions.

1.1 The thesis

The general aim of this thesis is to remedy the paucity of research with respect to specific interviewing tactics aimed at using the available evidence to elicit admissions. Moreover, two specific aims are set out. The first specific aim is to introduce and empirically test an interviewing tactic that derives from the Strategic Use of Evidence framework (the SUE framework; Granhag & Hartwig, 2015). In this tactic, called the SUE-Confrontation, the interviewer first elicits verbal cues to deceit by using the available evidence in a strategic manner, and then uses these cues to elicit admissions (Studies I, II, and III). The second specific aim is to explore police officers' planned use of the available evidence when the objective is to elicit admissions (Study IV).

The thesis is organised as follows. First, I will define the key terms used throughout this thesis. Second, I will provide an overview of the literature regarding the collection of information in suspect interviews. Third, I will focus on how the evidence is commonly used in suspect interviews, and how certain evidence disclosure techniques may affect the outcome of the interview. Fourth, I will introduce the SUE framework, and discuss how the principles underlying this framework can

be used to elicit admissions from guilty suspects. Finally, I will summarise the empirical studies and conclude with a general discussion.

1.2 Key terms and definitions

In this thesis, the term *evidence* refers to the body of incriminating information collected during a police investigation about a suspect's potential involvement in a criminal act. In other words, this term is used to refer to the interviewer's knowledge about a case and a suspect, rather than the information presented in court. Another term used frequently in this thesis is *elicitation*. This refers to strategies and tactics used by the interviewer to influence the suspect to disclose information that s/he would not otherwise reveal so as not to incriminate himself or herself.

1.2.1 Information/ Admission / Confession

This thesis makes a distinction between the terms information, admission, and confession. *Information*, which is the broadest term of the three, refers to anything that a suspect discloses in an interview. A piece of information collected from a suspect may range from being unrelated to the investigation (e.g. the suspect stating his or her mother's name) to being incriminating (e.g. the suspect admitting to having killed the victim). The information disclosed by a suspect that is potentially incriminating is referred to as an *admission*. More specifically, an admission corresponds to critical information previously unknown to the interviewer that may provide new leads for further investigation or establishes whether the suspect is linked to the crime (Perry, 2012). For instance, a suspect may admit to being in possession of stolen goods whilst denying having stolen them, or may admit to being at the crime scene on the night of a murder while denying having killed the victim. These admissions are potentially incriminating even though the suspect does not admit having committed the crime (i.e. confessing).

Lastly, a *confession* refers to a statement in which the suspect acknowledges having committed the crime (Kassin & Gudjonsson, 2004). In essence, a confession occurs when the suspect says 'I did it'. However, a confession does not necessarily correspond to a detailed story about the crime. In fact, a confession may be insufficient to lead to a prosecution if the suspect's story is not

supported by further evidence. In contrast, a statement that consists of admissions may provide basis for prosecuting a case even in the absence of a confession (Moston & Engelberg, 2011). Overall, this thesis is concerned with eliciting admissions, i.e. new and critical information, rather than obtaining full-fledged confessions.

1.2.2 Approach / Technique / Tactic

The different (and admittedly, sometimes rather confusing) terminology used across studies that have tested the efficiency of suspect interviews has encouraged researchers to come up with taxonomies (e.g. Kelly, Miller, Redlich, & Kleinman, 2013). In this thesis, I will adopt the taxonomy that was recently developed by Kelly and colleagues (2013). At the broadest level, suspect interviews can be sorted into different *approaches*. These provide a generic framework that interviewers can employ to achieve their interview goals. A framework can be defined as a tool that offers a coherent scheme that comprises appropriate pathways to reach the goals of a particular approach. Of relevance to this thesis is the dichotomy of information gathering versus accusatory approaches (Kelly et al., 2013). For an information gathering approach, the goal of the interview is to collect information from the suspect. In contrast, for an accusatory approach, the aim is to obtain a confession. An example of a framework that is created based on an information gathering approach is the five-stage PEACE model of suspect interviewing used in England and Wales (**P**lanning and preparation, **E**ngage and explain, **A**ccount, **C**losure, **E**valuation, see Milne & Bull, 1999). An interviewer who adheres to the PEACE model typically devotes time to prepare for the interview, ensures that the suspect is well informed about his or her rights, aims to build rapport and trust, obtains the suspect's statement through open-ended rather than close-ended questions, and avoids using leading or misleading questions. In sharp contrast, an interviewer who adopts an accusatory approach aims to obtain a confession by acting in a confrontational manner and being psychologically manipulative.

On a more specific level, *techniques* offer defined ways to achieve the goal of the interview. For instance, the SUE technique (Hartwig et al., 2005), which falls under the category of information gathering approaches, offers specific tactics and guidelines in relation to when and how

to disclose the evidence to the suspect so as to elicit verbal cues to deception and truth. A different example is the Reid technique, which can be categorised among the accusatory approaches (see Inbau, Reid, Buckley, & Jayne, 2013). An interviewer who uses the Reid technique attempts through psychological manipulation to persuade the suspect to confess to the crime (for criticism of the Reid technique, see Hartwig, Granhag, & Vrij, 2005).

Furthermore, a *tactic* is an even more detailed and specific way to achieve the goal of the interview. For instance, a SUE tactic, namely the Evidence Framing Matrix, provides guidance as to how to frame a piece of evidence while disclosing it in an interview to detect deception and truth (Granhag, Strömwall, Willen, & Hartwig, 2013). Similarly, the tactics advised by the Reid technique offer ways to make a suspect compliant so that s/he confesses (Kassin & McNall, 1991). For instance, the interviewer exaggerates the seriousness of the crime and expresses belief in the suspect's guilt (maximisation) or downplays the seriousness of the crime, offers face-saving excuses, and blames the victim (minimisation). Taken together, an approach provides a framework for suspect interviewing and is not as specific as a technique, which offers a detailed plan to steer the interview in the direction of the interview goal. A tactic is the most specific of all by providing the most in-depth plan to achieve the goal of the interview.

1.3 Information gathering in suspect interviews

Until recently, the majority of interviewers within law enforcement adopted the goal of obtaining a confession in a suspect interview (Bull, 2014). In a confession-oriented interview, the interviewer typically presumes that the suspect is guilty, and may use different forms of trickery and deceit to secure a confession (e.g. accusing the suspect of the crime in question, presenting false evidence, and isolating the suspect from friends and family) (Hill & Moston, 2011; Kassin, Goldstein, & Savitsky, 2003; Kassin et al., 2007; Leo, 2008; Moston & Engelberg, 1993). However, using psychological pressure runs the risk that suspects will admit to crimes that they have not committed (Innocence Project, n.d.). In other words, accusatory approaches may place the innocent in the position of making a false confession (for detailed reviews of false confessions, see

Gudjonsson, 2003; Kassin, 2005; Kassin, 2008, Kassin & Gudjonsson, 2004). The need to prevent such miscarriages of justice resulted in the introduction of the Police and Criminal Evidence Act in England and Wales (PACE, 1985), which was followed by the development of the PEACE model of interviewing. This model has pioneered ethical suspect interviewing, and has replaced the previous coercive and confession-oriented approach with an information gathering approach where the focus is on gathering reliable information (Bull & Soukara, 2010; Milne & Bull, 1999).

The findings of studies comparing information gathering approaches to accusatory approaches speak in favour of the former (Meissner et al., 2014). More specifically, information gathering approaches (vs. accusatory) increase the likelihood of obtaining true confessions (Meissner et al., 2015; Meissner, Redlich, Bhatt, & Brandon, 2012) and yield more accurate information (e.g. Alison et al., 2013; Evans et al., 2013; Goodman-Delahunty, Martschuk, & Dhami, 2014; Walsh & Bull, 2015). This is mainly attributed to the fact that a suspect who is faced with a friendly and respectful interviewer is more likely to be cooperative (Bull & Soukara, 2010, Study 3; Snook, Brooks, & Bull, 2015; St-Yves, 2006; Vrij, Mann, & Fisher, 2006). Conversely, a suspect who perceives the interviewer to be aggressive and unfriendly loses his or her motivation to cooperate and tends to be conservative in divulging information (Holmberg & Christianson, 2002; O'Connor & Carson, 2005).

It is possible to group a number of techniques under the umbrella of information gathering approaches. Some examples of such techniques are: the Cognitive Interview for Suspects (CIS; Geiselman, 2012); Assessment Criteria Indicative of Deception (ACID, see Colwell, Hiscock-Anisman, & Fede, 2013); and the SUE technique (Hartwig et al., 2005). While they share the goal of enhancing information gathering, each technique focuses on different aspects in order to achieve this goal. The CIS, which is a modified version of the Cognitive Interview (Fisher & Geiselman, 2010), draws on basic psychological principles to promote memory retrieval. This is achieved through the use of social dynamics (e.g. establishing a well-grounded relationship), communication (e.g. encouraging suspects to say more), and drawing on cognitive processes (e.g. using mnemonics). The ACID is a deception detection technique that aims at maximising the differences

between truth tellers and liars with respect to their behaviours related to memory and impression management. The story recounted by a truth teller, as opposed to that told by a liar, inherently comprises features such as vividness (e.g. more words and details) and spontaneity (e.g. unique details added after the initial free narrative). If the interviewer aims at increasing the recall of a truth teller (by obtaining a free narrative, posing forced-choice questions, and using mnemonics), these features will become apparent in his or her statement (Colwell, Hiscock-Anisman, Memon, Taylor, & Prewett, 2007). Furthermore, the SUE technique proposes a strategic way of interviewing with the focus on using the evidence to magnify the differences between liars and truth tellers (Hartwig, Granhag, & Luke, 2014). The SUE technique will be explained in more detail below.

Of relevance to the current thesis are the techniques that involve the presentation of evidence. Below, I will summarise the literature related to the use of evidence in suspect interviews.

1.4 Evidence use in suspect interviews

A central question in psycho-legal research concerned with the use of evidence is when to disclose the evidence to the suspect during an interview. Examinations of real-life interviews (e.g. King & Snook, 2009; Leo, 1996; Read, Powell, Kebbell, Milne & Steinberg, 2014; Sellers & Kebbell, 2011) and interviewers' self-reports (Granhag, Clemens, Strömwall, & Mac Giolla, 2015; Smith & Bull, 2014; Walsh, Milne, & Bull, 2016) reveal a lack of consensus regarding the timing of evidence disclosure. For instance, one study conducted in the US by Leo (1996) showed that in more than 80% of the interviews examined, the interviewers disclosed the evidence early in the interview. That is, the interviewers in many cases made the suspects aware of the information which existed against them before posing questions about the crime in question. An analysis of 44 suspect interviews in Canada revealed similar findings; in that 82% of the interviews started with the interviewers confronting the suspect with the evidence (King & Snook, 2009). An examination of interview records from Australia and England combined showed that the interviewers disclosed the evidence early in the interview about 50% of the time, with late disclosure occurring in only 9% of the interviews (Read et al., 2014). Other studies conducted in Australia paint a somewhat different

picture. Sellers and Kebbell (in their analyses of real-life interviews, 2011) and Smith and Bull (in their self-report study, 2014) found that late disclosure of evidence occurred more frequently and was preferred more frequently than early disclosure of evidence. These interviewers commonly preferred to obtain the suspects' statements before they disclosed the evidence, with disclosure taking place towards the end of the interview (also see Bull & Soukara, 2010, Study 4). Another set of studies, conducted in England and Wales, showed that the interviewers opted for a third evidence disclosure mode, i.e. gradual disclosure of evidence, rather than late or early disclosure (Walsh & Bull, 2015; Walsh et al., 2016). In this instance, most of the interviewers drip-fed the evidence throughout the interview. Furthermore, Walsh and Bull (2015) found that the interviewers employed two different forms of gradual disclosure. One of these was termed 'deferred gradual disclosure', in which the interviewers initially aimed to obtain an account from the suspect that covered all aspects of the crime in question. Once this account had been acquired, the interviewers returned to the suspect's statements, and required explanations regarding any contradictions with the evidence, while revealing the evidence gradually. The other gradual disclosure mode used was termed 'reactive gradual'. Also for this disclosure mode, the evidence was revealed in stages, but the revelation was made before the suspect's account was collected in full. The suspect was challenged immediately after an inconsistency occurred between his or her statement and the evidence held by the interviewer.

The fact that interviewers have different interview purposes may account for the observed differences in their preferences regarding disclosure of the evidence. The aim of the interview, whether it is to obtain a confession or to gather information, may affect the preferred timing of evidence disclosure by the interviewer. For instance, it is plausible that an interviewer who seeks to obtain a confession chooses to confront the suspect with the evidence at the start of the interview (e.g. Inbau et al., 2013). This choice may be based on the belief that early revelation is a demonstration of how strong the evidence is, leaving the suspect with no choice other than to confess (Moston, Stephenson, & Williamson, 1992; Walsh et al., 2016). Conversely, an interviewer

who aims to gather information in an open-minded fashion will likely turn to late or gradual disclosure to be able to obtain the suspect's side of the story.

1.4.1 Outcomes of evidence use

In addition to the body of research with respect to interviewers' preferred evidence disclosure modes, a substantial amount of research exists on the outcome of different evidence disclosure modes. Researchers have commonly investigated the effects of evidence disclosure on obtaining true confessions (e.g. Soukara et al., 2009, Walsh & Bull, 2012), information (e.g. Walsh & Bull 2010; 2015) and the detection of deception and truth (e.g. Hartwig et al., 2005). Below, I will review the literature with respect to the association between evidence disclosure modes and the obtaining of information as well as the detection of deception.

1.4.1.1 Information gathering. Very little research has been conducted regarding the role of evidence disclosure in information gathering. In fact, to the best of my knowledge, only two studies have addressed this issue (Walsh & Bull 2010; 2015). In their two studies, Walsh and Bull examined the association between interviewing skills and the interview outcomes by analysing recordings of interviews conducted with benefit fraud suspects in England and Wales. First, the researchers categorised the interviewers based on their interviewing skills; the more an interviewer adhered to the PEACE guidelines, the more skilled s/he was considered to be. According to the PEACE model, a skilled interviewer, among other things, refrains from disclosing the evidence early in an interview, and focuses initially on obtaining the suspect's free narrative. Second, the researchers categorised the outcomes of the interviews as 'desired' or 'undesired'. A desired outcome was defined as either a comprehensive account (regardless of whether any guilt was admitted) or a full and frank confession. Both studies found that being skilled at interviewing in line with the PEACE model was positively associated with gathering comprehensive accounts from the suspects. In addition, Walsh and Bull (2015) ran separate analyses in which they compared different evidence disclosure techniques with respect to the interview outcomes. The results revealed that the

gradual disclosure of evidence was correlated positively with gathering comprehensive accounts, while the likelihood of gathering such accounts was lower for late and early disclosures of the evidence. In addition, the number of interviews that yielded desired outcomes was higher when the interviewer used deferred gradual disclosure, as opposed to reactive gradual or late disclosure. While these studies provide valuable knowledge, no specific measure was taken to identify the incriminating value of the information elicited. Put differently, it is unclear whether the comprehensive accounts provided by the suspects consisted of an expanded knowledge of the evidence already held (i.e. more information about the suspects' activities already suggested by the evidence) or contained new and critical information about a phase of the crime for which information was lacking.

1.4.1.2 Detecting deception. An interviewer's ability to assess the veracity of the statements made by a suspect, i.e. whether or not s/he is telling the truth, is valuable for an investigation. The studies that have evaluated the accuracy of the veracity judgements made by interviewers have typically required them to; (a) watch videotapes of people providing either a truthful or a deceitful statement (e.g. Vrij & Mann 2001); and (b) conduct interviews with mock suspects (e.g. Dando & Bull, 2011; Hartwig, Granhag, Strömwall, & Kronkvist, 2006). These procedures are followed by obtaining the interviewers' judgements as to whether the people they watched or interviewed are lying or telling the truth. The findings reveal that law enforcement professionals are generally not skilled at discriminating between liars and truth tellers (Aamodt, & Custer, 2006; Colwell, James-Kangal, Hiscock-Anisman, & Phelan, 2015; Meissner & Kassin, 2002; Vrij, 1993). This can be attributed to the fact that interviewers, in making veracity judgements, rely on non-verbal cues (e.g. suspects' hand and leg movements or gaze aversion; Hartwig & Bond, 2008) which have been found to be weak and unreliable indicators of deceit (see De Paulo et al., 2003).

Recently, researchers have focused on developing interviewing approaches and techniques that can produce reliable verbal cues for detecting deception. This wave of deception detection research includes approaches and techniques aimed at magnifying verbal differences between suspects who

are lying and those who are telling the truth. One example is the aforementioned ACID technique (Colwell et al., 2013). For the ACID technique, the interviewer assesses a suspect's statement for certain content criteria so as to be able to make a judgement about the suspect's veracity status. Another example is the cognitive load approach (see Vrij, Fisher, & Blank, 2015; Vrij, Fisher, Blank, Leal, & Mann, in press), which rests on the notion that lying is more cognitively demanding than truth telling (Vrij, 2008). If a suspect's cognitive load is increased, for example by asking him or her to provide his or her account in reverse chronological order, a lying suspect will have difficulty managing this request as opposed to a truth telling suspect. Moreover, an interviewer may pose unanticipated questions to detect deception (see Vrij & Granhag, 2012). This technique is based on the assumption that when faced with an unanticipated question, a truth teller will be able to answer it by delving into his or her memory. In contrast, a liar who has not prepared an answer for this question will have difficulty coming up with a convincing response on the spot. A last example is the SUE technique, which relies on the premise that liars and truth tellers differ in terms of their verbal behaviours. An interviewer may exploit this difference by using the available evidence in a strategic manner (Granhag & Hartwig, 2015). I will provide a detailed overview of the SUE research program below.

In deception detection literature, researchers typically design an experimental set-up to compare evidence disclosure modes with respect to specific outcomes. Furthermore, they commonly employ a mock crime paradigm. Participants either commit a mock criminal act (guilty) or a similar noncriminal act (innocent), after which they are interviewed as suspects according to one of several different interview protocols. Guilty suspects are instructed to deny any wrongdoing (i.e. to lie about their criminal activity) during the interview. The activities performed by the participants generate identical pieces of evidence for the guilty and innocent conditions (e.g. a witness who had seen the suspect enter a store from which a wallet was stolen), and the interview protocols differ with respect to how this evidence is disclosed (e.g. late, gradual, or early). These interviews can then be used to: (a) make veracity judgements (e.g. Dando & Bull, 2011); and (b) assess whether or not suspects' statements contain verbal cues to deceit (e.g. Hartwig et al., 2005).

Comparisons of the late, gradual, and early disclosure techniques in the laboratory with respect to accuracy rates generated somewhat mixed findings. For instance, some studies have found that disclosing the evidence late in an interview yields higher overall accuracy rates in judging suspects' veracity than disclosing the same evidence early (Hartwig et al., 2005; Hartwig et al., 2006; Luke et al., 2016). Another set of studies has found that the gradual disclosure of evidence results in higher overall accuracy rates than late or early disclosure of the same evidence (Dando & Bull, 2011; Dando, Bull, Ormerod, & Sandham, 2015). These studies have been primarily concerned with how evidence disclosure can improve observers' accuracy in judging the suspects' veracity. Another line of research has focused on obtaining verbal cues to deceit through the use of evidence disclosure. That is, by using the evidence in a certain manner, researchers have tried to obtain statements that can be used to distinguish a liar from a truth teller. The pioneering technique in this area is the SUE technique (Granhag & Hartwig, 2015).

1.4.1.2.1 Detecting deception using the SUE technique. The SUE technique provides an empirically established way to disclose evidence in order to elicit cues to deception and truth (Granhag & Hartwig, 2015). The technique relies on the premise that liars (guilty suspects) and truth tellers (innocent suspects) differ in their counter-interrogation strategies, that is, in their attempts to convince the interviewer of their innocence (Granhag & Hartwig, 2008). Research has shown that innocent suspects are verbally forthcoming, whereas guilty suspects tend to be withholding of critical information (Hartwig, Granhag, & Strömwall, 2007; Hartwig, Granhag, Strömwall, Wolf, Vrij, & Roos af Hjelmsäter, 2011; Hines et al., 2010; Strömwall, Hartwig, & Granhag, 2006). The evidence held by the interviewer can be used strategically to exploit this difference. The strategic use of the evidence entails the interviewer posing questions to obtain the suspect's narrative, exhausting the alternative explanations to the evidence, and making the suspect address the evidence before it is revealed to him or her. In such an interview, a guilty suspect, without knowing what information the interviewer holds, will typically contradict the interviewer's knowledge. Hence, the interviewer will elicit a statement-evidence inconsistency. In contrast, an innocent suspect will be forthcoming with information, showing a much lesser degree of statement-

evidence inconsistency. Hence, the degree of statement-evidence inconsistencies can be used as a cue to deception or truth (e.g. Clemens, Granhag, & Strömwall, 2011; Hartwig et al., 2014).

Research findings accord with the assumptions outlined above, revealing that strategic interviewing results in more and stronger verbal cues to deceit (i.e. statement-evidence inconsistencies), compared to disclosing the evidence early in the interview. That is, studies have shown that guilty suspects interviewed with the SUE technique are significantly more inconsistent with the evidence than innocent suspects. In contrast, when the evidence is disclosed at the outset of the interview, the statements made by guilty and innocent suspects do not differ with respect to the degree of statement-evidence inconsistency (Hartwig et al., 2005; Hartwig et al., 2011; Jordan et al., 2012). Moreover, Sorochinski and colleagues (2013) found that withholding the evidence until the end of the interview produced more pronounced verbal differences (i.e. statement-evidence inconsistencies) between the guilty and innocent suspects, compared to when the same evidence was disclosed gradually. Importantly, the early disclosure of evidence resulted in the smallest difference between the guilty and innocent suspects. It is not surprising that early disclosure of evidence is inefficient at detecting deception. Revealing the evidence at the outset of the interview provides a guilty suspect with the opportunity to come up with a story that is consistent with the evidence. Put differently, a guilty suspect, knowing which information the interviewer holds, typically avoids contradicting the interviewer's knowledge. In summary, early disclosure of evidence makes it difficult for an interviewer to discriminate between a guilty suspect and an innocent suspect (Hartwig et al., 2005).

Granhag and colleagues (2013) introduced another measure within the SUE research program, i.e. within-statement inconsistency, which can be used as a verbal cue to deceit. Within-statement inconsistency occurs when a suspect contradicts his or her initial statement by changing his or her story. This cue can be elicited through the use of the Evidence Framing Matrix (EFM). According to the EFM, a single piece of evidence can be framed differently at each step of evidence disclosure. This tool is based on two dimensions: (a) the strength of the source of the evidence (weak and strong); and (b) the degree of the precision of the evidence (low and high). For instance, an

interviewer may possess CCTV footage that shows the suspect buying a suitcase of the same model and colour as the one subsequently found to contain bomb material. The source of this evidence can be framed as weak ('We have information telling us that . . . ') or as strong ('We have CCTV footage showing us that . . . '). The specificity of the evidence can be framed as low (' . . . you visiting a luggage store') or as high (' . . . you buying a particular suitcase'). These two dimensions can be used in various ways with respect to framing a piece of evidence during evidence disclosure. For example, the interviewer starts the interview in line with the SUE technique (obtains the suspect's free recall and exhausts alternative explanations to the evidence), and thereafter reveals the evidence in the most indirect form of framing (weak source strength and low specificity). The interviewer then frames the evidence more and more directly throughout the interview (strong source strength and high specificity). Granhag and colleagues compared this stepwise disclosure, which they termed 'SUE-Incremental', with late (the traditional SUE interview) and early disclosures. The SUE-Incremental interview resulted in the largest difference between the guilty and innocent suspects with respect to statement-evidence inconsistencies and within-statement inconsistencies. However, Luke et al. (2013) failed to replicate some of the findings of Granhag et al. (2013). They compared two incremental interview conditions (the evidence was disclosed with increasing specificity in either two or four steps) with late and early disclosure conditions. Overall, the guilty suspects (vs. innocent suspects) had more within-statement inconsistencies. However, the interview condition did not have any effect on the number of within-statement inconsistencies in the guilty suspects' statements. Moreover, a minority of the innocent suspects revised their statements during the interview, unlike in the study by Granhag and colleagues where none of the innocent suspects made revisions to their statements. Luke and colleagues speculated that these findings may have been due to the differences between the samples, the instructions given to the participants or the manner in which the evidence was presented.

Each piece of evidence that is used to elicit verbal cues to deceit (i.e. statement-evidence inconsistencies and within-statement inconsistencies) pertains to a certain theme (topic). That is, the evidence that an interviewer possesses about a case can be organised into different themes

(Granhag, 2010), for example, the suspect's phone records, the suspect's browser history, and the direction in which the suspect was going on the night of the crime (as caught on CCTV footage). In a SUE interview, when an interviewer addresses a piece of evidence, the suspect's verbal response (e.g. statement-evidence inconsistency) provides the interviewer with more information about the theme to which this particular evidence pertains (e.g. the suspect stating to have walked in the opposite direction). In other words, the interviewer will be expanding his or her knowledge of the theme about which s/he is posing questions, but not about another theme. Based on this, it can be said that in deception research the strategic disclosure of evidence is used as an end in itself. This thesis proposes to take the strategic use of evidence one step further. That is, cues to deceit obtained by using the evidence strategically will be utilised to elicit information pertaining to a theme other than the one to which the disclosed evidence pertains. More specifically, this thesis proposes to use the evidence in a strategic manner as a means of eliciting information about a theme for which the interviewer lacks information. In summary, the evidence will be used as a means to an end, rather than as an end in itself. For this purpose, this thesis introduces an interviewing tactic that is derived from the SUE framework.

1.5 The Strategic Use of Evidence framework

The SUE technique rests on a set of general principles that allow the development of evidence disclosure tactics that are tailored to achieve a specific goal in an interview (Granhag & Hartwig, 2015). These principles are based upon: (a) the suspect's perception of the evidence; (b) the suspect's counter-interrogation strategies; and (c) the suspect's verbal responses.

1.5.1 The suspect's perception of the evidence

The perception of the evidence refers to the suspect's views about the amount of information that the interviewer holds about the crime in question. Most suspects form a hypothesis about what information the interviewer might have about them (e.g. their whereabouts and activities) and the crime (e.g. Moston & Engelberg, 2011; Sellers & Kebbell, 2011). Research has shown that this is

particularly true for suspects who are guilty of the crime under investigation (Hartwig et al., 2007). The suspect's perception may or may not correspond to the actual amount of information that the interviewer holds. To be more specific, while a suspect may predict with accuracy how much information the interviewer holds, s/he can also underestimate or overestimate the amount of information held by the interviewer.

1.5.2 The suspect's counter-interrogation strategies

As mentioned above, research has shown that guilty and innocent suspects employ different verbal counter-interrogation strategies to convince the interviewer that they are innocent (Granhag & Hartwig, 2008; Hines et al., 2010). Since guilty suspects possess information that they must conceal to avoid incriminating themselves, they typically employ withholding strategies (Granhag, Clemens, & Strömwall, 2009). In contrast, innocent suspects often have no incriminating information to conceal, so they typically adopt forthcoming verbal strategies, and provide detailed statements so that the interviewer will come to know the truth (Colwell et al., 2013; Kassin, 2005; Strömwall et al., 2006).

These inherent differences between guilty and innocent suspects can be explained through the lens of a social cognitive framework, namely the theory of self-regulation (e.g. Carver & Scheier, 2012). This framework provides an understanding of how people regulate their behaviour to reach a goal or to avoid an undesired outcome. In an investigative interview, the desired goal for both guilty and innocent suspects is to convince the interviewer that their statement is true. The main threat for a guilty suspect is that the interviewer will come to know incriminating details about the crime. To evade this threat, s/he regulates his or her behaviour to avoid disclosing incriminating details, while at the same time providing an alternative account in order to appear credible. In summary, a guilty suspect needs to engage in strategic decision-making regarding what types of information to avoid, deny and admit during an interview.

The main threat for an innocent suspect is that the interviewer may not come to know the truth. However, an innocent suspect does not face the same information-management dilemma as does a

guilty suspect. Instead, s/he will often provide a complete and truthful account to avoid the threat of being assessed as guilty. Two phenomena can help explain why innocent suspects are verbally forthcoming. First, the strategies adopted by innocent suspects may be influenced by a belief in a just world. That is, one gets what one deserves and one deserves what one gets (Lerner, 1980). Innocent suspects may feel confident that if they are forthcoming they will be believed by the interviewer simply because they deserve it. Second, innocent suspects' forthcomingness may be based on an illusion of transparency (Gilovich, Savitsky, & Medvec, 1998). That is, people believe that their internal states are more visible to others than they are in reality (Kassin, 2005). This tendency may cause innocent suspects to believe that their truthfulness will be transparent once the interviewer really pays attention to their story.

An interesting question arises concerning the extent to which suspects change their counter-interrogation strategies during the course of an interview. The empirical findings are contradictory. For instance, a number of studies has found that a guilty suspect's initial strategy is unlikely to change (Alison et al., 2013; Baldwin, 1993; Deslauriers-Varin, Beauregard, & Wong, 2011; Moston et al., 1992; Soukara et al., 2009). If a guilty suspect decides to deny any wrongdoing before the interview, s/he will typically maintain this initial position throughout the interview. Conversely, Walsh and Bull (2012) have found that skilful interviewing (adherence to the PEACE guidelines) was associated with suspects shifting from an initial denial to a confession. This finding is important as it reveals that an interviewer's interviewing strategy may influence a guilty suspect's decisions. However, it is important to note that the study conducted by Walsh and Bull examined the shifts from a denial to a confession. To date, no attention has been paid to the effect of the interviewer's strategy on the extent to which a guilty suspect shifts from being less forthcoming to being more forthcoming in the absence of a confession.

1.5.3 The suspect's verbal responses

The suspect's verbal responses form the basis for evaluating the outcome of an interview, that is, (a) cues to deception and truth (the degree of statement-evidence inconsistency, and/or within-

statement inconsistency); and (b) new case-relevant information (admissions). Different SUE tactics result in different verbal responses from guilty suspects. For instance, withholding the evidence until the suspect's statement is obtained and/or alternative explanations to the evidence are exhausted were found to result in a guilty suspect contradicting the interviewer's knowledge (e.g. Hartwig et al., 2005). Moreover, the SUE-Incremental tactic, i.e. disclosing the evidence in a stepwise manner, was found to result in a guilty suspect contradicting his or her own story throughout the interview (Granhag et al. 2013). Thus far, no study has addressed the elicitation of information from guilty suspects within the SUE research program.

1.5.4 The relationships between the SUE principles

The relationships between the SUE principles lie at the core of the SUE framework. In essence, a guilty suspect's perception of the amount of evidence that the interviewer holds will affect his or her choice of counter-interrogation strategy. In turn, the suspect's counter-interrogation strategy will affect his or her verbal response. For an illustration of the links between these principles, see Figure 1.1.

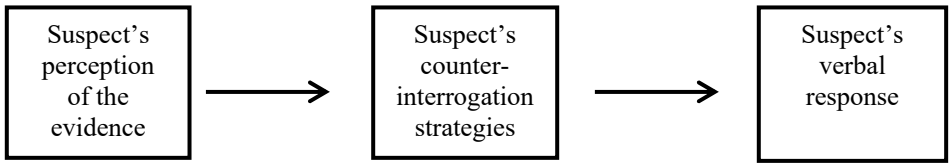

Figure 1.1. The relationships between the SUE principles (adopted from Granhag & Hartwig, 2015).

Research has lent support to the inference that a guilty suspect's perception of the evidence (i.e. how much information s/he believes the interviewer to hold) affects what s/he conceals or reveals. Moston and colleagues (1992) found that the perceived strength of evidence was positively associated with confessions. These findings were complemented by self-reports obtained from convicts. That is, the convicts' decisions as to whether to confess or deny the crime in their past interviews were dependent on how much information they thought the interviewer was holding (Deslauriers-Varin, Lussier, & St-Yves, 2011; Gudjonsson & Petursson, 1991). Recent research has

shown that suspects' perceptions of the evidence can also affect the information yield (Luke, Dawson, Hartwig, & Granhag, 2014; Luke, Hartwig, Shamash, & Granhag, 2015). Luke and colleagues conducted two laboratory studies that were designed to insinuate the presence of evidence to the suspects before the interview started. In brief, the experimenter informed the suspects that the interviewer possibly possessed evidence obtained from cameras (Luke et al., 2014), or an alleged defence lawyer warned the suspects regarding the strategy the interviewer was likely to use, that was, to withhold the evidence until s/he obtained the suspect's statement (Luke et al., 2015). The guilty suspects, who were alerted to the possibility of the interviewer having incriminating evidence against them, adopted more forthcoming strategies in the interview, as opposed to guilty suspects who were not informed in this manner. The manipulations in these studies were rather simple yet effective because they provided the suspects with information which they could form a hypothesis about the amount of evidence against them. Taken together, these studies show that the more evidence guilty suspects believe the interviewer to have, the more forthcoming they will become (presumably in an attempt to avoid statement-evidence inconsistencies).

The relationships between the SUE principles come into play during an interview in which the interviewer aims to detect deceit by using the evidence strategically. More specifically, the interviewer first requires free recall and/or exhausts the suspect's alternative explanations to the evidence without revealing the evidence itself. At this stage, a guilty suspect will presumably perceive the interviewer not to hold evidence against him or her (e.g. 'The interviewer does not seem to know I went to the park on Sunday evening'). In other words, the interviewer's strategy will result in the suspect underestimating the amount of information that the interviewer holds. In turn, the suspect will adopt a withholding counter-interrogation strategy so as to avoid providing incriminating information (e.g. Hartwig et al., 2007). Hence, the guilty suspect's statement will not be in line with the evidence (i.e. there will be statement-evidence inconsistencies).

These general principles can also be used for predicting how to elicit admissions. If a guilty suspect perceives the interviewer to hold a certain piece of information (e.g. 'The interviewer

probably knows that I was in the park on Sunday evening'), s/he will consider it fruitless to withhold this particular piece of information. Hence, the suspect will be forthcoming with that piece of information (e.g. 'I should mention that I was in the park during that evening'). This forthcomingness will likely be motivated by trying to avoid statement-evidence inconsistencies, the occurrence of which would undermine the suspect's credibility. The suspect's verbal response will in that case be an admission.

An important question arises from all this: How should an interviewer influence a suspect's perception of the evidence about a phase of a crime for which information is lacking in order to elicit admissions about that particular phase? In this thesis, a specific interviewing tactic, the SUE-Confrontation tactic, is proposed.

1.5.5 The SUE-Confrontation tactic

The SUE-Confrontation tactic is developed based on the following assumptions: (a) a suspect's perception of how much evidence the interviewer holds is malleable; (b) a suspect's perception of the evidence affects his or her counter-interrogation strategies; and (c) counter-interrogation strategies affect what a suspect reveals or conceals during the interview. This novel tactic is labelled the SUE-Confrontation, as it draws on the SUE framework and aims to alter the guilty suspect's counter-interrogation strategies by confronting him or her with cues to deceit (i.e. statement-evidence inconsistencies) obtained through strategic interviewing.

Below, I will explain how the SUE-Confrontation tactic can be employed in an interview for situations such as the one outlined at the very beginning of this thesis. That is, the interviewer has evidence pertaining to two comparatively less critical phases of a crime (e.g. before and after the crime), but lacks information about a third, and much more critical phase (e.g. the time period during which the crime took place). Hereinafter, the two phases for which the interviewer has evidence will be referred to as Phase 1 and Phase 2, whereas the phase for which the interviewer lacks evidence will be referred to as Phase 3 or the critical phase. It is important to note that the assumptions made for this example only apply to a guilty suspect. The rationale behind this is the

consistent findings that innocent suspects are typically forthcoming with critical information and that they are consistent with the evidence (Hartwig et al., 2014), regardless of the interviewer's strategy (e.g. Luke et al., 2014). Moreover, the guilty suspect is assumed to be perceptive of the interviewer's behaviour and to be acting in self-interest. Figure 1.2Figure presents a simplified illustration of the stages of the SUE-Confrontation interview.

First, the interviewer divides the interview into (three) phases. For each phase of the interview, the interviewer asks about one of the phases of the crime. The interviewer focuses on the two phases for which s/he holds evidence (i.e. Phases 1 and 2):

Phase 1

(1) *Interviewer's strategy*: The interviewer uses the most basic component of the SUE technique, that is, s/he poses an open-ended question about Phase 1 without revealing the evidence pertaining to that phase.

(2) *Suspect's perception of the evidence*: 'The interviewer does not mention any evidence, so s/he may not have evidence against me'. The suspect underestimates the amount of information that the interviewer holds.

(3) *Suspect's counter-interrogation strategy*: The suspect adopts a withholding strategy to avoid providing self-incriminating information.

(4) *Suspect's verbal response*: The suspect's statement will contain statement-evidence inconsistencies.

(5) *Interviewer's strategy*: The interviewer confronts the suspect with these statement-evidence inconsistencies.

The interviewer repeats the same steps as above for Phase 2 [step (6) to step (10)].

Here, it is important to note that the confrontations in Phases 1 and 2 are not of an accusatory nature. They are delivered in a neutral manner, merely informing the suspect that his or her statement contradicts the evidence that is available to the interviewer. The aim of these confrontations is to make the suspect believe that the interviewer holds more evidence about the critical third phase than the suspect initially thought. More specifically, if the interviewer confronts

the suspect following each open-ended question, the suspect will plausibly learn the interviewer's strategy, which is to withhold the evidence until s/he has obtained a statement. As a result, the suspect will expect the interviewer to use the same strategy in the next phase ('The interviewer may have more evidence, and as s/he did previously, s/he will ask questions without revealing what s/he knows'). At this stage, the interviewer turns to the critical phase for which s/he lacks information:

Phase 3

(11) *Interviewer's strategy*: The interviewer poses an open-ended question about Phase 3.

(12) *Suspect's perception of the evidence*: 'The interviewer must hold more information about this phase than s/he is letting on'. At this point the suspect overestimates the amount of information that the interviewer holds.

(13) *Suspect's counter-interrogation strategy*: 'My withholding strategy has not been working; I need to be more forthcoming in order to avoid being inconsistent with the evidence again'. The suspect adopts a forthcoming strategy.

(14) *Suspect's verbal response*: The suspect's statement will contain admissions.

In summary, after Phase 2 (or already after Phase 1), the guilty suspect is expected to shift his or her strategy from withholding to forthcoming based on his or her inflated perception of how much information the interviewer holds about the critical phase. This forthcoming strategy will thereafter result in admissions about the critical phase for which the interviewer lacks information.

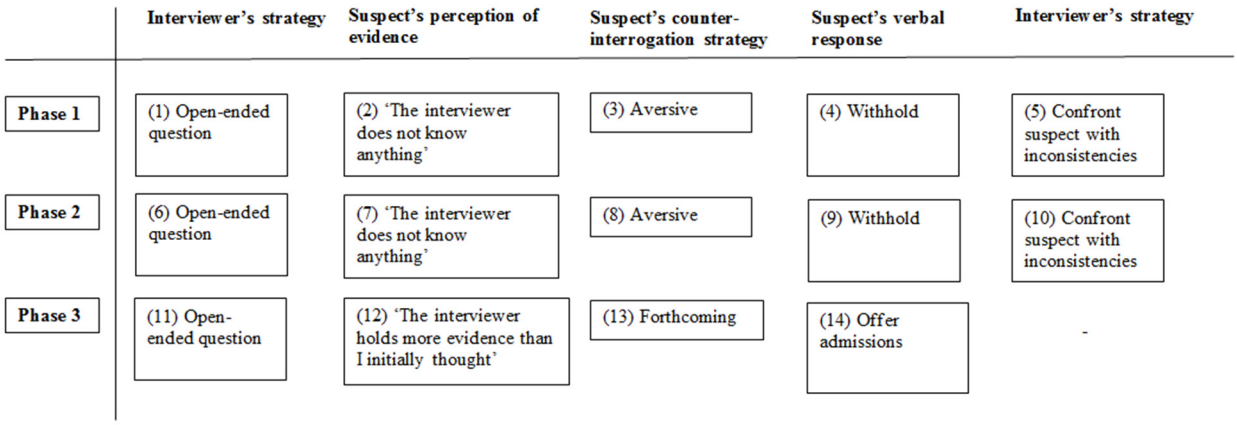

Figure 1.2 A simplified illustration of the stages of an interview in which the SUE-Confrontation tactic is employed.

The SUE-Confrontation interview is novel for two reasons: (a) it uses cues to deceit as a means to elicit admissions; and (b) it aims to alter the suspect's perception of the evidence, and thereby his or her counter-interrogation strategy, *during* the interview. In previous studies, the interviewer aimed to influence the suspects' perceptions and strategies *before* the interview started (Luke et al., 2014; Luke et al., 2015).

1.6 Methodological considerations and decisions

The primary aim of Studies I, II and III of this thesis was to examine the efficacy of the SUE-Confrontation tactic for eliciting admissions from guilty suspects. These were experimental studies conducted in the laboratory. The experimental set-up was motivated by previous SUE studies in which a mock crime paradigm was used (e.g. Hartwig et al., 2005). There are two advantages to conducting interviews in a controlled environment. First, it allows comparisons of interview protocols that consist of different evidence disclosure modes, while controlling for factors that could otherwise influence suspects' responses. Second, the ground truth is available to the researchers, which is rarely the case in field studies. Having established the ground truth in the studies of the current thesis ensures that the suspects are confronted with accurate evidence.

The dependent measures used in the experimental studies were: (a) statement-evidence inconsistencies; (b) the suspects' perceptions of how much information they believed the interviewer to have had about the critical phase (Studies I, II, and III); (c) the suspects' counter-interrogation strategies (Studies II and III); (d) the admissions disclosed with respect to the critical phase (Studies I, II, and III); and (e) the suspects' forthcomingness throughout the interview (i.e. the extent to which they shared information regarding each phase of the interview; Study III). The suspects' narratives were coded as having a statement-evidence inconsistency if the suspects omitted or contradicted a piece of evidence in their statements. This coding was motivated by a categorisation of lies made by DePaulo, Kashy, Kirkendil, Wyer, and Epstein (1996), who suggested three categories of lies, two of which are relevant for the coding. These are, subtle lies whereby a liar does not volunteer relevant information in an attempt to mislead the receiver (an omission); and outright lies whereby a liar presents a version of the truth that is completely different from the real truth (a contradiction). The third category of lies is exaggerations that occur when a liar overstates or understates the facts. However, this category is not relevant for the studies included in this thesis because the suspects' statements were coded based on whether or not a fact was present. As to the suspects' perceptions of the evidence, a post-interview questionnaire was used to obtain the ratings of how much information the suspects believed the interviewer to have held about the critical phase, prior to being asked about this phase. A problem with such retrospective self-reports is that they may be influenced by the interviewer's questions about the critical phase. On the other hand, the alternative method would be to obtain these ratings during the interview, which might compromise the results by influencing the suspects' verbal responses to the subsequent questions. Therefore, retrospective self-reports were chosen as the means to capture this variable.

Study IV of this thesis turned to the field to examine police officers' planned use of evidence to elicit admissions. Previous studies have explored interviewers' behaviours by either analysing real-life interviews or obtaining interviewers' self-reports. One can argue that in self-report studies interviewers tend to provide answers that are socially desirable, with the consequence that these

responses may not fully reflect their actual behaviours. However, this concern may be unfounded, since the findings from archival studies that examined interviewers' evidence use in various countries (in the US, Leo, 1996; in Australia, Sellers & Kebbell, 2011; in the UK, Walsh & Bull, 2015) were in line with the findings obtained from interviewers' self-reports in the same countries (in the US, Kassin et al., 2007; in Australia, Smith & Bull, 2014; in the UK, Walsh et al., 2016). Moreover, given that real-life interviews are rarely available to researchers, self-report studies are a feasible way to study police officers' behaviours. Such studies are also easier to develop, more rapidly conducted, and they can reach many respondents. Therefore, Study IV was designed as a survey study.

Chapter 2: Summary of the empirical studies

2.1 General and specific aims

The psycho-legal literature is scarce with respect to specific interviewing tactics aimed at eliciting admissions from suspects. This is somewhat surprising considering the value of new and critical information to a criminal investigation. This thesis sets out to remedy this paucity of research. The main focus of the thesis is the use of evidence to elicit admissions. This is motivated by the fact that in the majority of criminal cases, interviewers possess evidence and they (more or less tactically) use this evidence during interviews. The studies included in the thesis had two general aims; (i) to introduce and empirically test the SUE-Confrontation tactic with respect to its effectiveness for eliciting admissions by using the existing evidence strategically, and (ii) to explore police officers' planned use of the available evidence to elicit admissions.

Specifically, the aim of Study I was to test the SUE-Confrontation tactic with respect to its effectiveness to elicit admissions. The experimental set-up was designed to mimic situations in which the interviewer had information about less critical phases of the crime, but lacked information about the most critical phase. The dependent variables in Study I were the suspects' perceptions of the evidence (i.e. how much information they believed the interviewer to have held prior to being asked about the critical phase of the crime) and their forthcomingness about the critical phase (i.e. the admissions disclosed). The aim of Study II was to advance Study I. That is, the interview protocols used in Study I were refined by implementing a set of changes in their structures, one additional dependent variable was introduced (the suspects' statement-evidence inconsistencies), and potential changes in the suspects' counter-interrogation strategies throughout the interview were examined. In Study III, the aim was to increase the ecological validity of the SUE-Confrontation interview by providing the suspects with the opportunity to explain their statement-evidence inconsistencies. This interview was labelled the SUE-Confrontation/Explain. Furthermore, the shifts in the suspects' strategies were examined more closely. Finally, Study IV explored how police officers planned to use the available evidence pertaining to less critical phases of a crime, so as to elicit admissions about a more critical phase of the crime for which they lacked

information. In addition, police officers' reasons behind their preferred evidence disclosure mode were examined. The four studies and the outcomes therefrom are briefly described below. For an overview of the studies included in this thesis, see Table 2.1. The manuscripts of these studies can be found in Appendices E to H.

The experimental set-up was identical in Studies I, II and III. Upon arrival at the laboratory, the participants were given instructions to take on the role of a mock criminal. They then committed a mock crime, and were interviewed as suspects using one of the three interview protocols. In these interviews, the suspects' goal was to convince the interviewers of their innocence. Following the interview, the participants completed a post-interview questionnaire in a truthful manner. The questionnaire was designed to obtain the participants' self-reports with respect to their perceptions of the evidence (Studies I, II and III), as well as the counter-interrogation strategies that they employed throughout the interview (Study III). The participants performed the tasks individually, and the experiments took about an hour to complete. After the experiments, the participants were fully debriefed and they received a movie ticket (Studies I and II) or £5 (Study III) as compensation for their time.

The mock crime used in Studies I, II and III was designed to mimic a situation in which the interviewer possessed evidence pertaining to several less critical phases of a crime, but lacked information on the more critical phase. Thus, the mock crime was divided into three phases: two less critical phases, and one critical phase. Each phase entailed a different task related to the crime (e.g. meeting an accomplice and stealing a file to prepare an attack). The tasks performed in the two less critical phases generated six pieces of evidence in total (three for each phase). While these pieces of evidence cast suspicion on the suspect, they did not indicate that s/he was responsible for the crime. Importantly, the interviewer did not possess information regarding the third phase. This third phase was labelled the 'critical phase' because it was essential to elicit admissions about this phase to be able to further the investigation. The participants were not informed that one of the phases of the mock crime was critical. The participants kept the written instructions with them while performing their tasks so as to avoid the heavy burden of memorising them.

Table 2.1. Overview of the studies included in this thesis

Study	Method	*N*	Independent Variables	Dependent Variables
I	Laboratory experiment	120	Interview Style *SUE-Confrontation vs. Early Disclosure of Evidence vs. No Disclosure of Evidence* Veracity *(Guilty vs. Innocent)*	Suspects' perceptions of the evidence Admissions
II	Laboratory experiment	90	Interview Style *SUE-Confrontation vs. Early Evidence Disclosure vs. No Disclosure of Evidence*	Statement-evidence inconsistencies Suspects' perceptions of the evidence Admissions
III	Laboratory experiment	75	Interview Style *SUE-Confrontation vs. SUE-Confrontation/Explain vs. Early Disclosure of Evidence*	Statement-evidence inconsistencies Suspects' perceptions of the evidence Admissions Suspects' forthcomingness
IV	Survey study	69	-	Investigators' planned evidence use Investigators' reasons behind their planned evidence use

The interview protocols were divided into three phases, with each phase corresponding to one of the phases of the mock crime. For instance, if the suspect's activities took place in a café in Phase 1 (e.g. meeting an accomplice), and the interviewer held evidence pertaining to this phase, there would be a phase in the interview that included questions aimed at finding out about the suspect's activities in the café. In order to explore the suspect's activities regarding the critical phase, the interviewer would ask an open-ended question (e.g. 'Can you tell me in detail what you

did after you left the café?'). The interviews were conducted by trained research assistants who were blind to the suspects' veracity and the hypotheses. The interviewers were instructed to adopt a neutral style (neither overfriendly nor accusatory). The interviews started with the interviewer introducing himself or herself and informing the suspect about the crime of which s/he was suspected. As a general rule, for each interview protocol, the interviewer posed follow-up questions to determine whether the suspect had anything to add (e.g. 'Is there anything more you can tell me about what you did after you left the café?'). The interviews were closed by the interviewer thanking the suspect for his or her cooperation.

2.2 Study I

In Study I, the SUE-Confrontation interview was compared to two control interviews. The control interviews were chosen based on their practical relevance. The first control interview was the Early Disclosure of Evidence interview, often used in (US) police interviews. In these interviews, the interviewer typically reveals the evidence at the outset of the interview (e.g. Leo, 1996). The second control interview was the No Disclosure of Evidence interview. In brief, interviewers do not utilise the available evidence in every interview. For example, in their analysis of interview transcripts, Sellers and Kebbell (2011) found that in four out of 55 interviews, the interviewers did not disclose the evidence. No Disclosure interviews may be rare in real-life, but the fact that they do occur at all necessitated the inclusion of such an interview condition. The hypotheses tested in each of the studies are listed in Table 2.2.

2.2.1 Method

A total of 120 adults (85 women and 35 men) were recruited through advertisements at several locations in Gothenburg, Sweden. The participants' age ranged from 20 to 69 (M_{years} = 28.48, SD = 9.35). Upon arriving at the laboratory, they were randomly assigned to one of six conditions (n = 20 in each condition). Half of the participants were instructed to commit a mock crime (guilty

Table 2.2. The hypotheses and the results broken down by study and dependent variable

Study	Dependent Variable	Hypothesis	Result
I	Suspects' perceptions of the evidence	*Hypothesis 1*: The guilty suspects in the SUE-Confrontation condition (vs. control conditions) would overestimate the amount of evidence the interviewer held about the critical phase prior to being asked about this phase.	Not supported
	Admissions	*Hypothesis 2*: The innocent suspects (vs. guilty suspects) would disclose more admissions about the critical phase.	Supported
		Hypothesis 3: The difference between the guilty and innocent suspects with respect to their forthcomingness would be smallest for the SUE-Confrontation condition.	Not supported
		Hypothesis 4: The guilty suspects in the SUE-Confrontation condition (vs. the guilty suspects in the control conditions) would reveal more admissions about the critical phase.	Not supported
II	Statement-evidence inconsistency	*Hypothesis 1a*: The SUE-Confrontation interview (vs. the Early Disclosure) would generate more inconsistencies.	Supported
		Hypothesis 1b: The suspects in the SUE-Confrontation condition (vs. the suspects in the Early Disclosure condition) would be more inconsistent with the evidence in Phase 1; however, there would be no such difference between the conditions in Phase 2.	Partially supported
	Suspects' perceptions of the evidence	*Hypothesis 2*: The suspects in the SUE-Confrontation condition (vs. the two control conditions) would perceive the interviewer to have had more information about the critical phase prior to being asked about this phase.	Supported
	Admissions	*Hypothesis 3:* The suspects in the SUE-Confrontation condition (vs. the two control conditions) would provide more admissions about the critical phase.	Supported
III	Statement-evidence inconsistency	*Hypothesis 1:* The two SUE interviews (vs. the Early Disclosure interview) would yield more statement-evidence inconsistencies in Phases 1 and 2.	Supported
	Suspects' perceptions of the evidence	*Hypothesis 2*: The suspects interviewed with the two SUE interviews (vs. the Early Disclosure interview) would perceive the interviewer to have had more information about the critical phase prior to being asked about this phase.	Supported
		Hypothesis 3: For the two SUE conditions, a positive correlation was predicted between the suspects' perception of the evidence and their level of admissions, whereas no such correlation was predicted for the Early Disclosure condition.	Supported
	Admissions	*Hypothesis 4a:* The SUE-Confrontation/Explain condition (vs. the SUE-Confrontation condition) would result in more admissions about the critical phase.	Not supported
		Hypothesis 4b: The Early Disclosure condition (vs. the two SUE conditions) would result in fewer admissions.	Partially supported
	Suspects' forthcomingness	*Hypothesis 5*: The suspects in the two SUE conditions would sooner (after Phase 1) or later (after Phase 2) switch from a withholding to a more forthcoming counter-interrogation strategy. Conversely, the suspects in the Early Disclosure condition were expected to be forthcoming for Phase 1 and Phase 2, and withholding for Phase 3.	Partially supported

condition), whereas the other half were instructed to perform similar but noncriminal activities (innocent condition). Three interview conditions were used: SUE-Confrontation; Early Disclosure of Evidence; and No Disclosure of Evidence. The dependent variables were as follows: (a) the suspects' perceptions of the evidence regarding the critical phase; and (b) the admissions disclosed with respect to the critical phase.

The mock crime. Half of the participants were asked to imagine themselves as an animal rights activist, and that they were to undertake a mission to help gain illegal access to a company's computer network to prevent harmful animal testing (guilty). The remaining participants were told that the study examined emotional engagement in daily activities, and that they were to send a postcard to someone dear to them (innocent).

Phase 1. Participants went to the psychology department's café either to meet an accomplice who would provide them with a code to infect the computer network later on (guilty); or to write a postcard (innocent). The guilty participants (a) ordered a beverage, and (b) sat down to wait for a man (the accomplice) to approach them with the code. Approximately five minutes later, (c) the accomplice passed them the sheet of paper with the code on it. (d) After a brief dialogue (in which the accomplice asked if the participants knew what to do next), the participants left the café. The innocent participants (a) ordered a beverage, and (b) sat down to write their postcards. Approximately five minutes later, (c) a man passed them a business card that promoted language translation services. (d) After a brief dialogue (in which the man explained to the participants what was written on the card), they left the café.

Phase 2. Participants went from the café to the department's library to collect an envelope left for them (guilty) or to perform mundane activities (innocent). The guilty participants (a) checked out some brochures lying on a small book case in the middle of the library (so as not to appear suspicious), and (b) located a box full of books in which the envelope was hidden. The envelope had an address and a stamp on. They (c) took the envelope and placed the code inside. The innocent

participants also (a) checked out the brochures, and (b) the box to see if any book was of interest to them.

Phase 3. Participants left the department for the closest post-box to send the letter (the envelope with the code) to an accomplice (guilty) or to send the postcard (innocent). Next, all participants visited a convenience store located next to the post-box, and bought a pack of chewing gum. This was intended to be a cover story for the guilty participants for leaving the department. Once the tasks were complete, the participants returned to the department's laboratory.

The evidence. The two less critical phases (Phases 1 and 3) generated identical pieces of evidence for the guilty and innocent suspects. The actions generated six pieces of information, three pieces for each phase. The evidence for Phase 1 included eyewitness statements indicating that the suspect had: (a) been to the café; (b) talked to a man in the café; and (c) received something from the man. The evidence for Phase 3 included eyewitness statements indicating that the suspect had: (a) been outside the department; (b) posted a letter; and (c) visited the convenience store located next to the post-box. One of the three pieces of evidence in Phases 1 and 3 regarding the suspect's whereabouts was used to initiate the questioning about this phase (e.g. 'We have information indicating that you visited the department's café, please explain what you did there'). Put differently, this one piece of information was downplayed and used to limit the suspect's responses to the particular phase that the interviewer wanted to ask about. Importantly, the interviewer did not possess any information pertaining to Phase 2 (i.e. the critical phase).

The interviews.

SUE-Confrontation interview. The interviewer followed the same three steps for Phases 1 and 3: (1) an open-ended question about the suspect's activities (e.g. 'We have information indicating that you visited the department's café, please explain what you did there'); (2) two specific questions about the suspect's activities implied by the evidence (e.g. 'Did someone talk to you in the café, in addition to the employees?'); and (3) disclosure of the evidence followed by a confrontation/confirmation. The disclosure of the evidence was dependent upon the suspect's responses to the specific questions. If the suspect responded with a denial (e.g. 'No one talked to me

in the café'), the interviewer confronted him or her with the evidence (e.g, 'You said that no one talked to you while you were sitting in the cafe, but we have information from a very reliable witness who says that you were actually talking to someone'). If the suspect responded with a confirmation (e.g. 'Yes, I talked to someone'), the interviewer confirmed that what s/he had said fitted the evidence (e.g. 'You said that someone was talking to you while you were sitting in the cafe, which fits well with the eyewitness testimony we have'). Lastly, the interviewer posed an open-ended question regarding the critical phase ('Think back to what you did after you were in the café, but before you left the department. I want you – in as much detail as possible – to tell me about what you did during that time period'). (For the interview protocol, see Appendix E.)

Early Disclosure interview. This interview differed from the SUE-Confrontation interview with respect to the timing of the evidence disclosure. The interviewer followed the same two steps for Phases 1 and 3: (1) disclosure of evidence during which the two pieces of evidence were revealed; and (2) an open-ended question about the suspect's activities. The questioning procedure for Phase 2 was identical to that used for the SUE-Confrontation interview. (For the interview protocol, see Appendix E.)

No Disclosure interview. The interviewer did not reveal the evidence, instead posed an open-ended question about the suspect's activities in Phases 1 and 3 (e.g. 'We have information indicating that you visited the department's café, please explain what you did there'). The questioning procedure for the critical phase was identical to those used for the SUE-Confrontation and the Early Disclosure interviews. (For the interview protocol, see Appendix E.)

Codings. In the post-interview questionnaire, the participants rated how much information they believed the interviewer to have held about their activities in the critical phase before receiving questions about this phase (on a 7-point scale; 1 = *the interviewer had very little information*, and 7 = *the interviewer had a lot of information*). The admission score was calculated by adding up the number of pre-determined critical details in the suspects' statements for the critical phase (range 0-3). The suspects received 1 point each for mentioning the following pieces of information: (1) being in the library; (2) checking brochures in the library; and (3) poking around in a box full of books in

the library. A random 30% of the transcripts were independently rated by two coders with respect to admissions. Intra-class correlation (ICC) was calculated, showing excellent agreement of .98, 95% CI [.97, .99]. The one disagreement was settled in a discussion between the coders. One of the coders coded the remaining transcripts.

2.2.2 Results

Suspects' perceptions of the evidence. A one-way ANOVA was conducted to compare the effect of interview style on the guilty suspects' perceptions of the evidence. The planned comparisons showed that the guilty suspects in the SUE-Confrontation condition did not perceive the interviewer to have had more information about the critical phase compared to the suspects in the Early Disclosure and No Disclosure conditions combined, $t(56) = 1.30$, $p = .20$, $r = .17$, 95% CI [-.09, .41]. Hypothesis 1 was not supported. There was no difference between the two control conditions, $t(56) = -1.08$, $p = .28$, $r = .14$, 95% CI [-.12, .38]. See Table 2.3 for descriptive statistics.

Admissions. A 2 x 3 two-way ANOVA was conducted, with veracity (innocent vs. guilty) and interview (SUE-Confrontation vs. Early Disclosure vs. No Disclosure) as between-subject factors and admission score as the dependent variable. There was a main effect of veracity on the number of admissions suspects disclosed, $F(1,114) = 19.96$, $p < .001$, $r = .37$, 95% [.20, .51]. The innocent suspects were more forthcoming ($M = 2.97$, $SD = 0.26$) than the guilty suspects ($M = 2.35$, $SD = 1.02$), supporting Hypothesis 2. The main effect of interview style ($F(2,114) = .28$, $p = .76$, $r = .10$, 95% [-.08, .27]), and the interaction effect ($F(2,114) = .10$, $p = .90$, $r = .12$, 95% [-.06, .29]) were not significant. Hence, Hypothesis 3 was not supported. Furthermore, a one-way ANOVA was conducted to compare the effect of interview style on the guilty suspects' admission scores. Planned contrasts revealed that the guilty suspects in the SUE-Confrontation condition did not disclose more admissions about the critical phase compared to the suspects in the Early Disclosure and No Disclosure conditions combined, $t(57) = 0.53$, $p = .60$, $r = .07$, 95% CI [-.02, .46]. Hence, Hypothesis 4 received no support. There was no difference between the two control conditions,

$t(57) = 0$, $p = 1$, $r = .13$, 95% CI [-.06, .43]. The results of Study I are summarised in words in Table 2.2.

Table 2.3. Descriptive statistics for dependent variables broken down by interview condition (Study I)

	Innocent Suspects			Guilty Suspects		
Dependent variable	SUE-Confrontation M (SD)	Early Disclosure M (SD)	No Disclosure M (SD)	SUE-Confrontation M (SD)	Early Disclosure M (SD)	No Disclosure M (SD)
Perceptions of the evidence	5.20 (1.85)	5.30 (1.53)	4.90 (1.48)	5.55 (1.57)	5.25 (1.55)	4.68 (1.77)
Admissions	3.00 (0.00)	3.00 (0.00)	2.90 (0.45)	2.45 (1.05)	2.30 (0.98)	2.30 (1.08)

2.2.3 Discussion

No differences were found across the interview conditions with respect to the guilty suspects' perceptions of the evidence and their level of forthcomingness regarding the critical phase. However, the guilty suspects' mean ratings of how much information they perceived the interviewer to have held about the critical phase (the lowest mean: 4.68 of 7), as well as their mean admission scores (lowest mean: 2.30 of 3), were rather high across all three conditions. These findings suggest that the mechanism through which the SUE-Confrontation interview aimed to elicit admissions might have been at play also for the control conditions. In other words, as predicted for the SUE-Confrontation condition, the interviewer may have influenced the guilty suspects' perceptions of the evidence, and consequently their counter-interrogation strategies in the control conditions. For the Early Disclosure interview, the interviewer first confronted the suspects with the evidence that pertained to one of the less critical phases. After obtaining the suspects' free narratives for this phase, the interviewer confronted them with more evidence, this time for the other less critical phase. At this point, the suspects were faced with the fact that the interviewer actually had more evidence than they initially thought. This might have resulted in an overestimation of the amount of evidence that the interviewer held about the critical phase. Furthermore, for the No Disclosure

interview, the information used to initiate the line of questioning regarding the less critical phases might have been perceived as evidence confrontation by the guilty suspects. These repeated evidence confrontations (as in the Early Disclosure condition) might have led to an overestimation of the amount of information that the interviewer held about the critical phase. In brief, the particular structure of the control protocols may be the main reason why the guilty suspects in these conditions overestimated the evidence, and why they as a consequence became more forthcoming and disclosed admissions to the same (high) extent as the guilty suspects in the SUE-Confrontation condition. In conclusion, even though the hypotheses were not supported, the results indicate that strategic interviewing may very well be a promising tool for eliciting admissions.

2.3 Study II

Study II aimed to advance Study I on several accounts. First, the interview protocols were refined (see below). Second, a new dependent measure was included: the suspects' statement-evidence inconsistencies. Third, the shifts in the suspects' counter-interrogation strategies were examined. In addition, the scope of the study was limited to guilty suspects based on the findings of Study I. That is, Study I showed that the innocent suspects were more forthcoming than the guilty suspects and that they disclosed all the information they held regardless of how the evidence was played in the interview.

As for Study I, the SUE-Confrontation interview was compared to two control interviews: the Early Disclosure of Evidence, and the No Disclosure of Evidence interviews. A number of changes was made to these protocols for Study II. For the SUE-Confrontation interview, the specific questions posed about the two phases for which the interviewer had evidence were excluded (the open-ended questions and the evidence disclosures remained the same). The rationale behind this change is that a guilty suspect who is wary of the interviewer's strategy may learn that the interviewer poses specific questions about a phase only if s/he possesses evidence pertaining to that phase. The suspect may then try to counteract this strategy during the subsequent phases of the interview by not revealing information unless the interviewer poses specific questions. In other

words, if the interviewer poses specific questions for the less critical phases and not for the critical phase, the suspect may withhold information regarding the critical phase due to his or her belief that the interviewer lacks information about this particular phase. Furthermore, the findings of Study I showed that the evidence disclosures in the control interviews might have affected the suspects' perceptions of the evidence. Based on this, some changes were made to the control interviews. For the Early Disclosure interview, the interviewer disclosed the evidence in a lump at the start of the interview, rather than drip-feeding it at the onset of each phase (as was done in Study I). Furthermore, for the No Disclosure interview, the interviewer posed questions only about the critical phase, disregarding the other two phases. The guilty suspects in the control conditions were expected to provide very little incriminating information about the critical phase. The hypotheses tested in Study II are listed in Table 2.2.

2.3.1 Method

In total, 90 participants (59 women and 31 men) were recruited through advertisements at several locations in Gothenburg, Sweden. Their age varied between 19 and 69 years (M = 21.51, SD = 7.65), and they were randomly allocated to one of the three interview conditions (n = 30 in each condition): SUE-Confrontation; Early Disclosure of Evidence; and No Disclosure of Evidence. The dependent variables were: (a) the suspects' statement-evidence inconsistencies; (b) the suspects' perceptions of the evidence regarding the critical phase; and (c) the admissions disclosed with respect to the critical phase. The interviewer held evidence pertaining to Phase 1 and Phase 2 of the mock crime, but lacked information about Phase 3 (the critical phase).

The mock crime. Participants were instructed to imagine themselves as a dedicated member of an activist group. They were to undertake a secret mission as part of a larger operation, which was to sabotage a company infamous for harmful animal testing.

Phase 1. Participants received a key from a female accomplice (one of the experimenters) for entering an office later on. (a) They left the department for a short while through the back door. (b) They waited outside for the accomplice and (c) received an electronic key. (d) After a brief dialogue

(in which the accomplice asked if the participants knew how to use the key), they went back into the building.

Phase 2. Participants copied a file from a laptop. (a) They went to the top floor (the fifth floor) of the department. (b) They entered an office using the key received in Phase 1. (c) They found a laptop with a file named 'The Codes' on the desktop. This file contained scripts that were to be used in the larger operation. (d) They logged into their private e-mail accounts and (e) sent this file to another accomplice.

Phase 3. In the final phase, participants collected several documents containing important information about the sabotage. (a) They went down to the second floor of the department. (b) They went to a bulletin board, where they located and memorised a distinctive sign on a green sheet of paper which was posted by the activist group. (c) Then, they entered the library where (d) they took an envelope from a cupboard. (e) After leaving the library, they walked through a corridor with small lecture rooms leading off from it. (f) They went into one of those lecture rooms, which had the same green sign on its door as that on the bulletin board. From this room, they collected a box of documents. (g) They went down two floors to the basement to complete the last part of their mission. (h) In the basement, they put the envelope and the key inside the box, and placed this package under a sofa for an accomplice to pick up later. Once the mission was completed, they returned to the laboratory.

The evidence. The two less critical phases (Phase 1 and Phase 2) generated three pieces of evidence each. The evidence for Phase 1 included: (a) video camera surveillance footage from the back entrance showing the suspect leaving the building through the backdoor and entering through the same door after a short while; and an eyewitness statement indicating that the suspect had (b) talked to a woman outside, and (c) received an object from that woman. The evidence for Phase 2 included: (a) an eyewitness statement indicating that the suspect had been on the top floor; and (b) a report from the computer technician showing that the suspect had logged into his or her e-mail account, which (c) also indicated that the suspect had entered a room on that floor. The interviewer did not possess any evidence about Phase 3 (i.e. the critical phase).

The interviews.

SUE-Confrontation interview. The structure of the interview for Phases 1 and 2 was identical: (1) a specific question about the suspect's whereabouts (e.g. 'Have you been out at the back of the department today?'); (2) an invitation for a free narrative (e.g. 'Can you tell me what you did there?'); and (3) disclosure of the evidence followed by a confrontation/confirmation. The interviewer confronted the suspect with each piece of evidence s/he omitted or contradicted, and emphasised the seriousness of withholding information ('It is obvious that you are withholding information from me. This is serious and we will return to this later'). For those instances in which the suspect's statements fitted the evidence, the interviewer explicitly confirmed this (e.g. 'You say that you went out through the back door and we have video footage indicating that you did so. Thus, what you say fits the evidence that we have'). Lastly, the interviewer posed an open-ended question about the critical phase ('Can you tell me what you did after you left the top floor, but before you were brought to the interview?'). If the suspect volunteered being on the second floor, in the library, in the corridor, or in the basement, the interviewer asked a general question about his or her activities there (e.g. 'You mentioned being in the basement. Can you tell me in detail what you did there?').

Early Disclosure interview. This interview differed from the SUE-Confrontation interview with respect to the timing of the evidence disclosure. First, the interviewer disclosed all six pieces of evidence, and thereafter posed open-ended questions to obtain a free narrative about the suspect's activities in Phase 1 and then in Phase 2. The questioning procedure for the critical phase was identical to that used for the SUE-Confrontation interview.

No Disclosure interview. The interviewer did not reveal any of the six pieces of evidence and only posed an open-ended question about the critical phase. The interviewer initiated the questioning for this phase by using the information about the suspect's whereabouts in Phase 2 ('We have information that you were on the top floor of the department. Now, I want you to think back to what you did after you left the top floor, but before you were brought to the interview. Tell me what you did after you left the top floor in as much detail as possible'). The rest of this protocol

was identical to the procedure used for the critical phase in the SUE-Confrontation and the Early Disclosure interviews.

Codings. The suspects' statement-evidence inconsistencies were analysed by adding the number of contradictions and omissions in the free narratives for Phases 1 and 2 (range 0-3, for each phase). The suspects' perceptions of the evidence were obtained in the post-interview questionnaire by asking the suspects to rate how much information they believed the interviewer to have held about their activities in the critical phase prior to being asked about this phase (on a 7-point scale; 1 = *the interviewer knew nothing*, and 7 = *the interviewer knew everything*). The admission score was calculated by adding the number of pre-determined critical details in the suspects' statements for the critical phase. The critical admissions pertained to: (a) the second floor; (b) the bulletin board; (c) the library; (d) the cupboard in the library; (e) the second floor corridor; (f) the small lecture room on the second floor corridor; (g) the basement; and (h) the sofa in the basement. Each admission was valued as 1, hence, the total admission score for a suspect ranged between 0 and 8. A random 30% of the transcripts were independently rated by two coders with respect to the number of statement-evidence inconsistencies and admissions. ICCs were calculated, showing excellent agreement of .98, 95% CI [0.97, 0.99] for the number of statement-evidence inconsistencies and .99, 95% CI [0.995, 0.999] for the admission scores. The disagreements were settled in a discussion between the coders. One of the coders coded the remaining transcripts. Finally, to trace the shifts in counter-interrogation strategies, the suspects' strategies were categorised as withholding or forthcoming for each phase of the interview. That is, the suspects with at least one statement-evidence inconsistency were regarded as withholding for Phase 1. The suspects were considered as withholding if the number of their inconsistencies for Phase 2 was greater than or equal to the number of inconsistencies they produced for Phase 1. Finally, in Phase 3, the suspects were categorised as withholding if they arrived at an admission score less than or equal to 4 (i.e. if they scored below the midpoint of the admission score scale).

2.3.2 Results

Statement-evidence inconsistency. A mixed-design ANOVA with statement-evidence inconsistency score at Phase 1 and Phase 2 as the within-subjects factor and interview (SUE-Confrontation vs. Early Disclosure interviews) as the between-subjects factor was conducted. In support of Hypothesis 1a, there was a significant main effect of interview condition, $F(1, 58) = 49.74$, $p < .001$, $r = .68$, 95% CI [.52, .79], and the suspects in the SUE-Confrontation condition were more inconsistent with the evidence compared to the suspects in the Early Disclosure condition. The main effect of inconsistency scores (across Phases 1 and 2) was not significant, $F(1, 58) = 0.10$, $p = .75$, $r = .04$, 95% CI [-.22, .29]. Importantly, the interaction effect was significant, $F(1, 58) = 6.57$, $p = .013$, $r = .32$, 95% CI [.07, .53]. Simple effects tests at each level of phase showed that the suspects in the SUE-Confrontation condition produced more inconsistencies than the Early Disclosure condition for Phase 1, $F(1, 58) = 61.55$, $p < .001$, $r = .72$, 95% CI [.56, .82], and that this difference decreased for Phase 2, but was still significant, $F(1, 58) = 23.22$, $p < .001$, $r = .53$, 95% CI [.32, .69] (see Figure 2.1). Hence, Hypothesis 1b was partially supported. See Table 2.4 for descriptive statistics. Of special interest was the change that occurred across the phases within the SUE-Confrontation condition. A paired samples *t*-test revealed that the suspects were significantly more inconsistent in Phase 1 than in Phase 2, $t(29) = 2.19$, $p = .037$, $r = .38$, 95% CI [.25, .77].

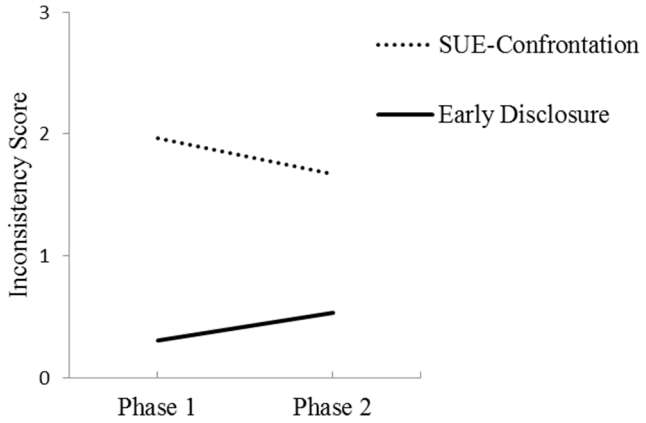

Figure 2.1. Mean inconsistency scores for Phase 1 and Phase 2 broken down by interview condition (Study II).

Suspects' perceptions of the evidence. A one-way ANOVA showed that the suspects' perceptions of the evidence differed across interview conditions, $F(2, 87) = 3.66$, $p = .03$, $r = .28$, 95% CI [.08, .46]. Planned contrasts revealed that the suspects in the SUE-Confrontation condition perceived the interviewer to have held more information about the critical phase than did the suspects in the Early Disclosure and the No Disclosure conditions, $t(87) = 2.43$, $p = .017$, $r = .25$, 95% CI [.04, .43]. Hypothesis 2 received support. No difference was found between the control conditions, $t(58) = 1.47$, $p = .146$, $r = .19$, 95% CI [-.07, .42].

Admissions. A one-way ANOVA revealed a significant effect of interview condition on the level of admissions, $F(2, 87) = 4.21$, $p = .018$, $r = .29$, 95% CI [.09, .47]. Planned contrasts showed that the SUE-Confrontation condition resulted in more admissions compared with the Early Disclosure and the No Disclosure conditions combined, $t(87) = 2.69$, $p = .008$, $r = .28$, 95% CI [.08, .46]. Thus, Hypothesis 3 was supported. There was no difference between the two control conditions, $t(58) = 1.79$, $p = .079$, $r = .23$, 95% CI [-.03, .46]. The results of Study II are summarised in words in Table 2.2.

Finally, the exploratory analyses showed that in the SUE-Confrontation condition, as many as 90% ($n = 27$) of the suspects used a withholding strategy at the onset of the interview compared to only 16% ($n = 5$) of the suspects in the Early Disclosure condition. A number of suspects in the SUE-Confrontation condition ($n = 9$, 30%) then switched to a more forthcoming strategy either after being confronted with inconsistencies in Phase 1 ($n = 5$) or in Phase 2 ($n = 4$) of the interview. Of note is that 41% ($n = 10$) of the suspects used a withholding strategy from the beginning to the end of the interview. This pattern was in the reverse direction for the Early Disclosure condition. The suspects ($n = 22$, 88%) switched from a forthcoming strategy to a withholding strategy, after either Phase 1 ($n = 6$) or Phase 2 ($n = 16$). For the critical phase, at a group level, the suspects in the SUE-Confrontation condition demonstrated a bimodal trend with respect to the admissions disclosed. That is, almost half of the suspects in this condition were forthcoming ($n = 12$), whereas the remainder were withholding. However, only a minority of the suspects in the Early Condition (n

= 4) were forthcoming in Phase 3. Figure 2.2 illustrates the changes in the suspects' strategies throughout the phases in both conditions.

Table 2.4. Descriptive statistics for dependent variables broken down by condition (Study II)

Interview condition	Phase 1 Incon. Score M (SD)	Phase 2 Incon. Score M (SD)	Perceptions of the Evidence M (SD)	Admission Score M (SD)
SUE-Confrontation	1.97 (.89)	1.67 (.88)	4.50 (1.83)	3.63 (2.33)
Early Disclosure	.30 (.75)	.53 (.94)	3.87 (1.48)	2.63 (1.99)
No Disclosure	–	–	3.37 (1.54)	2.03 (2.14)

Note. Incon. = Inconsistency

2.3.3 Discussion

The findings provide empirical support for the assumptions on which the SUE-Confrontation tactic rests. By interviewing strategically, the interviewer first elicited cues to deceit (statement-evidence inconsistencies). In the next instance, the interviewer used these cues to affect the suspects' perceptions of the amount of information the interviewer held about the critical phase. The suspects' inflated perceptions resulted in that they changed their strategies from withholding to forthcoming. In turn, the interviewer elicited admissions with respect to the critical phase. This outcome is explained by the suspects realising that their initial withholding strategies were not facilitating their goal of being believed. In other words, being inconsistent with the evidence undermined their credibility. To restore their credibility, they adopted a more forthcoming strategy when asked about a phase about which they believed the interviewer to already hold information (a belief which was, in fact, incorrect). As a result, the suspects disclosed admissions about the critical phase. The situation for the suspects in the control conditions was very different. They did not need to base their strategies on what they believed the interviewer might have known. They either already knew about the incriminating evidence against them (Early Disclosure) or the evidence was not even a parameter in their interviews (No Disclosure). As a result, these suspects adopted withholding strategies for the critical phase.

It is important to note that the means for the admission scores in the Early Disclosure condition and the SUE-Confrontation condition were similar. The bimodal pattern in the SUE-Confrontation condition accounts for this finding. Speculatively, this may also be due to the source of the evidence. Suspects may be more sensitive to technical evidence, such as security camera footage. First, this type of evidence is more conclusive. Second, if interviewers have access to one piece of technical evidence, suspects may believe that the interviewers have access to more (e.g. there may be more surveillance cameras in different locations which could demonstrate the suspects' whereabouts). Therefore, the suspects in the Early Disclosure condition may have become wary about the possibility of more surveillance footage and therefore attempted to be consistent with the possible evidence regarding their whereabouts in the building.

It is also worth mentioning that almost half of the suspects in the SUE-Confrontation condition maintained their initial withholding strategy from the beginning until the end. There are two possible explanations for this finding. First, these suspects may have thought that concealing critical information was a more effective way to appear innocent. Second, they may have believed that the interviewer was already convinced of their guilt based on their inconsistencies. As a result, they may have thought that any attempt to regain their credibility in the critical phase was futile.

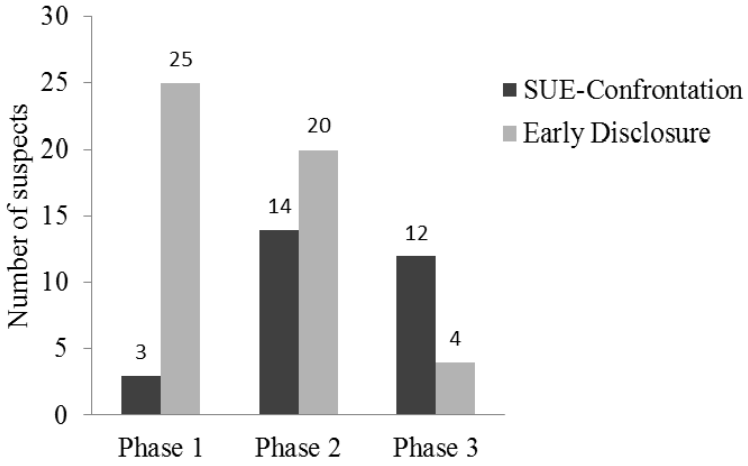

Figure 2.2. Numbers of forthcoming suspects for each phase of the SUE-Confrontation and Early Disclosure interviews (Study II).

2.4 Study III

In Study III, the ecological validity of the SUE-Confrontation tactic was increased by asking the suspects to explain their statement-evidence inconsistencies, in contrast to Study I and Study II where the suspects were not given the opportunity to account for the discrepancies in their statements. This new interview condition was labelled the SUE-Confrontation/Explain. This advancement was motivated by the fact that in real-life situations, an interviewer is likely to challenge a suspect's inconsistencies (e.g. Walsh & Bull, 2015). Moreover, Study III aimed to advance Study II by looking more closely at the shifts in suspects' strategies throughout the interview. For this purpose, the following two measures were used: (a) an objective measure for which a 'forthcomingness' score (the extent to which the suspects shared information) was calculated for each phase of the interview, thereby allowing comparisons between phases; and (b) a subjective measure for which, following the interview, the suspects reported their initial and altered counter-interrogation strategies (they were asked about their altered strategies only if they reported having changed their initial strategies). As in Study II, the scope was limited to guilty suspects. The hypotheses tested in Study III are listed in Table 2.2.

2.4.1 Method

Students and staff members (N = 75, 40 female and 35 male; 50 students and 25 staff members) from various departments at the University of Portsmouth (UK) were recruited through advertisements at several locations at the university premises. Their age ranged from 18 to 62 years (M = 27.51, SD = 10.75) and they were randomly allocated to one of three interview conditions (n = 25 in each condition): SUE-Confrontation/Explain; SUE-Confrontation; and a control condition, Early Disclosure of Evidence. The dependent variables were as follows: (a) the suspects' statement-evidence inconsistencies; (b) the suspects' perceptions of the evidence regarding the critical phase; (c) the admissions disclosed with respect to the critical phase; and (d) the suspects' forthcomingness. For the mock crime, the interviewer held evidence pertaining to Phases 1 and 2, but lacked information about Phase 3 (the critical phase).

The mock crime. Participants were told that university officials were testing the security measures on the university premises to see whether they could detect criminal activities. They were instructed to imagine themselves as a dedicated member of a criminal group and tasked to undertake a secret mission as part of a larger operation, which was to prepare an attack on the university premises.

Phase 1. Participants received a key from an accomplice (one of the experimenters) for entering an office later on. They (a) left the department building (King Henry Building) for a short while, (b) waited for the accomplice outside behind the building by a signpost, (c) received a key, and (d) after a brief dialogue (in which the accomplice asked if the participant knew what to do next), went back into the building.

Phase 2. In the second phase, participants e-mailed a file from a laptop. They (a) went to the third floor of King Henry Building, (b) entered an office with the key received in Phase 1, and (c) found a laptop with a file named 'The Codes' on the desktop. This file contained scripts that were to be used in the attack. They then (d) logged into their private e-mail accounts, and (e) e-mailed this file to another accomplice.

Phase 3. In the final phase, participants collected several documents containing important information about the attack. They (a) left King Henry Building and went to another university building nearby, Park Building; (b) took the lift, (c) went to the fourth floor (top floor) of the building, (d) located a cupboard behind which there was an envelope left for them, (e) went one floor down to the third floor, (f) collected a box of documents from the shelves situated in the corridor, (g) went all the way down to the basement to complete the last part of their mission, and (h) placed the envelope inside the box, and placed this package in the empty space behind the lift for an accomplice to pick up later. Once the mission was complete they returned to the laboratory in King Henry Building.

The evidence. The two less critical phases (Phase 1 and Phase 2) generated three pieces of evidence each. The evidence for Phase 1 included an eyewitness statement indicating that the suspect had: (a) been outside behind King Henry Building; (b) talked to a man/woman outside

(depending on the accomplice's gender); and (c) received an object from that man/woman. The evidence for Phase 2 included: (a) an eyewitness statement indicating that the suspect had been on the third floor of King Henry Building; and (b) a report from the computer technician showing that the suspect had logged into his or her e-mail account, which (c) also indicated that the suspect had entered a room on that same floor. The interviewer possessed information that a package was found behind the lift in the basement of Park Building, and that the package contained important information about an attack on the university premises. Moreover, the interviewer had access to the evidence pertaining to Phases 1 and 2, but did not possess any evidence about Phase 3 (i.e. the critical phase).

The interviews.

SUE-Confrontation/Explain interview. The structure of the interview for Phases 1 and 2 was identical and consisted of five steps for each phase: (1) a specific question about the suspect's whereabouts (e.g. 'Have you been outside behind King Henry Building today?'); (2) an invitation for a free narrative (only if the suspect replied 'yes' to the previous question; e.g. 'Can you tell me what you did there?'); (3) disclosure of the evidence followed by a confrontation/confirmation; (4) asking for an explanation for each statement-evidence inconsistency; and (5) feedback on the suspect's explanation(s). The interviewer confronted the suspect with each piece of evidence that s/he (the suspect) omitted or contradicted and emphasised the seriousness of withholding information. When the suspect's statements matched the evidence, the interviewer confirmed this (step 3). After the confrontation, the interviewer required an explanation for every statement-evidence inconsistency within the suspect's statement (step 4; e.g. 'How do you explain the inconsistency between your statement and the evidence showing that you did talk to a man behind King Henry Building?'). When the suspect provided an explanation that matched the evidence (e.g. 'Sorry, I forgot to mention that I talked to a man outside'), the interviewer confirmed that his or her statement matched the evidence (step 5; 'OK, what you say now fits with the evidence that we have'). If the statement was still inconsistent with the evidence (e.g. 'You are wrong, I did not talk to a man outside'), the interviewer emphasised the seriousness of the continuing inconsistency (step

5; ‘What you say is still inconsistent with the evidence; this is not good for your credibility’). Next, the interviewer gave a five-minute break to provide the suspect time to reflect upon the first two phases of the interview and the counter-interrogation strategies that s/he had adopted. Following the break, the interviewer returned to the room to pose an open-ended question about the critical phase (‘Can you tell me what you did after you left the top floor of King Henry Building and before you were brought in to the interview?’). If the suspect volunteered being at specific locations (Park Building, Park Building’s fourth floor, third floor and/or basement), then the interviewer asked a general question about his or her activities there (e.g. ‘You mentioned being in Park Building’s basement. Can you tell me in detail what you did there?’).

SUE-Confrontation interview. This interview differed from the SUE-Confrontation/Explain interview with respect to the handling of statement-evidence inconsistencies. That is, the interviewer did not require the suspect to explain their inconsistencies. Thus, Phases 1 and 2 of the SUE-Confrontation interview involved only steps 1, 2, and 3 of the SUE-Confrontation/Explain interview. The questioning procedure for the critical phase was identical to that used for the SUE-Confrontation/Explain interview (including the five-minute break).

Early Disclosure interview. This interview differed from the SUE interviews with respect to the timing of evidence disclosure. At the beginning of the interview, the interviewer disclosed all six pieces of evidence. The interviewer subsequently posed open-ended questions to obtain a free narrative about the suspect’s activities in Phase 1 and then in Phase 2 (e.g. ‘Tell me in detail what you did when you were behind King Henry Building’). The questioning procedure for the critical phase was identical to those used for the SUE interviews (including the five-minute break).

Codings. The coding of statement-evidence inconsistencies (range 0-3, for Phases 1 and 2) and admissions (range 0-8, for Phase 3) were identical to the coding procedure for the same variables in Study II. The critical admissions pertained to: (a) being inside Park Building; (b) taking the lift; (c) being on the fourth floor; (d) mentioning the cupboard on the fourth floor; (e) being on the third floor; (f) mentioning the shelves on the third floor; (g) being in the basement; and (h) being in the empty space behind the lift in the basement. Each admission was valued 1 point. A random 30% of

the interviews were independently rated by two coders with respect to the number of statement-evidence inconsistencies for Phases 1 and 2 and with respect to the admissions in Phase 3. ICCs showed excellent agreement across all phases with respect to inconsistencies, .88, 95% CI [.71, .95] for Phase 1, .96, 95% CI [.91, .99] for Phase 2; and with respect to the admission scores, .98, 95% CI [.96, .99]. The disagreements were settled in a discussion between the coders. One of the coders subsequently coded the remaining interviews.

The suspects' ratings of their perceptions of the evidence were obtained in the post-interview questionnaire, but in a different way than in Studies I and II. The participants were asked – for each of the eight critical details – whether they thought the interviewer possessed that piece of information prior to being asked about the critical phase. The perception of the evidence was calculated by counting the number of details that the suspects perceived the interviewer to possess (range 0-8).

The suspects' level of forthcomingness was assessed by calculating a ratio for each phase. In doing so, the ratio of the number of statement-evidence consistencies to the total number of pieces of evidence was calculated for both Phase 1 and Phase 2. For instance, if a suspect was consistent with one piece of evidence out of three, the forthcomingness score would be .33. Similarly, the ratio of the number of admissions in the suspects' statements to the total number of possible admissions was calculated for Phase 3. For instance, if a suspect admitted to four details out of eight, the forthcomingness score would be .50.

Finally, to trace the direction of the shifts in the suspects' counter-interrogation strategies, two coders independently coded a random 30% of the suspects' self-reported initial and new counter-interrogation strategies as either forthcoming or withholding. Strategies were categorised as forthcoming, for instance, when suspects reported having stayed close to the truth or admitted to details without revealing criminal intent. The category of withholding strategies consisted of suspects reporting to have denied everything or answered to a bare minimum. As some strategies reported by the suspects were not verbal (e.g. 'I stayed calm'), they were categorised as 'other'.

Interrater agreement was 88.6% (Cohen's κ = .70) for the suspects' self-reported strategies. One of the coders categorised the remaining material.

2.4.2 Results

Statement-evidence inconsistency. A mixed-design ANOVA was conducted with interview condition (two SUE conditions combined vs. Early Disclosure) as the between-subjects factor and phase as the within-subjects factor. There was a main effect for interview condition, $F(1, 73) = 54.30$, $p < .001$, $r = .65$, 95% CI [.50, .76]. As predicted, the SUE conditions resulted in more statement-evidence inconsistencies ($M = 1.71$, $SD = 0.11$) than did the Early Disclosure condition ($M = 0.30$, $SD = 0.16$). There was no significant main effect of phase, $F(1, 73) = 1.28$, $p = .26$, $r = .13$, 95% CI [-.10, .35]. Importantly, there was a significant interaction effect between interview condition and phase, $F(1, 73) = 4.72$, $p = .03$, $r = .25$, 95% CI [.02, .45]. Simple effects tests at each phase (Phases 1 and 2) showed that the two SUE conditions combined ($M = 1.90$, $SD = 0.84$) produced more statement-evidence inconsistencies than the Early Disclosure condition ($M = 0.24$, $SD = 0.72$) both at Phase 1, $F(1, 73) = 71.24$, $p < .001$, $r = .70$, 95% CI [.56, .80] and at Phase 2, $F(1, 73) = 22.05$, $p < .001$, $r = .48$, 95% CI [.28, .64] (two SUE conditions combined, $M = 1.52$, $SD = 1.01$; Early Disclosure condition, $M = 0.36$, $SD = 0.99$). Hence, Hypothesis 1 was supported.

No difference was expected between the two SUE conditions with respect to statement-evidence inconsistencies. However, a mixed-design ANOVA with interview condition (SUE-Confrontation/Explain vs. SUE-Confrontation) as the between-subjects factor and phase as the within-subjects factor revealed a significant main effect of interview, $F(1, 48) = 4.32$, $p = .04$, $r = .29$, 95% CI [.01, .53]. Unexpectedly, the suspects in the SUE-Confrontation/Explain condition were more inconsistent overall with the evidence ($M = 1.94$, $SD = 0.16$) than the suspects in the SUE-Confrontation condition ($M = 1.48$, $SD = 0.16$). There was a main effect of phase demonstrating that Phase 1 resulted in more statement-evidence inconsistencies than Phase 2, $F(1, 48) = 8.40$, $p = .006$, $r = .39$, 95% CI [.13, .60]. No interaction effect was found, $F(1, 48) = .58$, $p = .45$, $r = .11$, 95% CI [-.17, .38]. Of special interest was the change that occurred across the phases

within each SUE condition. Thus, multivariate simple effects tests were conducted for each SUE condition, comparing the changes in inconsistency scores from Phase 1 to Phase 2. Suspects in the SUE-Confrontation condition were more inconsistent with the evidence in Phase 1 than in Phase 2, $F(1, 48) = 6.70$, $p = .01$, $r = .35$, 95% CI [.08, .57]. No such difference occurred for the SUE-Confrontation/Explain condition, $F(1, 48) = 2.78$, $p = .14$, $r = .23$, 95% CI [-.05, .48]. See Table 2.5 for the descriptive statistics.

Suspects' perceptions of the evidence. A one-way ANOVA with interview condition (SUE-Confrontation vs. SUE-Confrontation/Explain vs. Early Disclosure) as the factor revealed a significant effect for the suspects' perceptions of the evidence, $F(2, 72) = 3.64$, $p = .03$, $r = .30$, 95% CI [.08, .49]. Planned contrasts showed that the suspects in the SUE conditions ($M = 4.62$, $SD = 2.64$) believed the interviewer to have had significantly more information about the critical phase than did the suspects in the Early Disclosure condition ($M = 3.08$, $SD = 2.31$), $t(72) = -2.48$, $p = .02$, $r = .28$, 95% CI [.06, .48]. Moreover, no difference was found between the SUE conditions, $t(72) = 1.06$, $p = .29$, $r = .12$, 95% CI [-.11, .34]. Hence, Hypothesis 2 was supported. See Table 2.5 for descriptive statistics. The suspects' perceptions of how much information they thought the interviewer had about the critical phase were positively and significantly correlated with the amount of critical information they revealed when asked about this phase in both the SUE-Confrontation/Explain condition ($r = .48$, 95% CI [.10, .74], $p = .02$) and the SUE-Confrontation condition ($r = .74$, 95% CI [.49, .88], $p < .001$), but not in the Early Disclosure condition ($r = .24$, 95% CI [-.17, .58], $p = .24$). Hypothesis 3 was supported.

Admissions. A one-way ANOVA with interview condition (SUE-Confrontation vs. SUE-Confrontation/Explain vs. Early Disclosure) as the factor revealed a significant effect for admissions, $F(2, 72) = 6.18$, $p = .003$, $r = .38$, 95% CI [.17, .56]. Post hoc comparisons using a Bonferroni test showed that the SUE-Confrontation/Explain condition did not differ from either the SUE-Confrontation condition ($p = .48$) or the Early Disclosure condition ($p = .13$). Importantly, the

SUE-Confrontation interview elicited more admissions than the Early Disclosure interview (p = .002). See Table 2.5 for the descriptive statistics. In summary, Hypothesis 4a received no support, whereas Hypothesis 4b received partial support. Further analyses were run to clarify these results. It was found that the SUE-Confrontation/Explain condition consisted of two groups of suspects: Suspects who provided an explanation to one or more of their inconsistencies in Phase 1 or Phase 2 (64% of the suspects); and suspects who did not explain any of their inconsistencies (28% of the suspects). Suspects who accounted for some or all inconsistencies admitted significantly more self-incriminating information about the critical phase *(M* = 4.38, *SD* = 1.78) than suspects who did not explain any of their inconsistencies (*M* = 1.43, *SD* = 1.62), $t(21) = -3.74$, p = .001, r = .75, 95% CI [.50, .89]. In addition, the group that chose to account for their inconsistencies explained about 60% of them in Phase 1. However, the suspects' behaviours varied in Phase 2; some of them explained only 20% of their inconsistencies, while the rest explained 100% of their inconsistencies. Nevertheless, both subgroups had similar and fairly high admissions scores.

Table 2.5. Descriptive statistics for dependent variables broken down by interview type and phase (Study III)

Interview condition	*Phase 1 Incon. M (SD)*	*Phase 2 Incon. M (SD)*	*Perception of evidence M (SD)*	*Admission score M (SD)*	*Phase 1 Forth. M (SD)*	*Phase 2 Forth. M (SD)*	*Phase 3 Forth. M (SD)*
SUE-Confrontation/ Explain	2.08 (0.86)	1.80 (0.91)	4.24 (2.57)	3.68 (2.29)	0.31 (0.29)	0.40 (0.30)	0.44 (0.30)
SUE-Confrontation	1.72 (0.79)	1.24 (1.05)	5.00 (2.71)	4.64 (2.53)	0.43 (0.26)	0.59 (0.35)	0.57 (0.33)
Early Disclosure	0.24 (0.72)	0.36 (0.99)	3.08 (2.31)	2.28 (2.34)	0.92 (0.24)	0.88 (0.33)	0.28 (0.29)

Note. Incon. = inconsistency scores; Forth. = 'forthcomingness' scores.

Suspects' forthcomingness. To examine the shifts in suspects' counter-interrogation strategies, separate polynomial trend analyses were run for each condition with respect to the suspects' forthcomingness for all three phases. There was no significant trend in the SUE-Confrontation/Explain condition, $F(1, 23) = 3.31$, p = .08, r = .35 , 95% CI [-.05, .65]. There was an

increasing linear trend across the phases for the SUE-Confrontation condition, $F(1, 23) = 4.45$, $p = .046$, $r = .40$, 95% CI [.006, .687]. That is, the suspects' forthcomingness gradually increased throughout the interview. A decreasing linear trend, ($F(1, 23) = 93.89$, $p < .001$, $r = .90$, 95% CI [.78, .96]), as well as a quadratic trend ($F(1, 23) = 19.10$, $p < .001$, $r = .67$, 95% CI [.37, .84]) emerged for the Early Disclosure condition. This indicated that the suspects had a similar level of forthcomingness in Phases 1 and 2, but their forthcomingness decreased rather dramatically in Phase 3 (see Figure 2.3Figure). Hypothesis 5 was partially supported. In addition, 68% of the suspects in the SUE-Confrontation condition, 52% in the SUE-Confrontation/Explain condition, and 40% in the Early Disclosure condition reported to have changed their strategies during the interview. Overall, 94% of the suspects in the SUE-Confrontation condition and 90% in the SUE-Confrontation/Explain condition either remained forthcoming or changed their strategies from withholding to forthcoming. The corresponding percentage for the Early Disclosure condition was only 44.50%. The results of Study III are summarised in words in Table 2.2.

2.4.3 Discussion

The findings, once more, show that strategic interviewing is an efficient tool to elicit admissions. The suspects in the two SUE conditions were comparatively more inconsistent with the evidence. Moreover, their perceptions of the evidence (they overestimated the amount of evidence) affected their choice of strategy (they changed their strategies from withholding to forthcoming), which in turn affected their verbal responses (they admitted to comparatively more critical information). In addition, in the SUE conditions, the suspects' perceptions were positively correlated with their forthcomingness, showing that the suspects relied on their perceptions when deciding on their strategies. However, there was no such correlation in the Early Disclosure interview showing that the suspects' perceptions of how much the interviewer might have known regarding the critical phase did not affect how much information they disclosed about this phase.

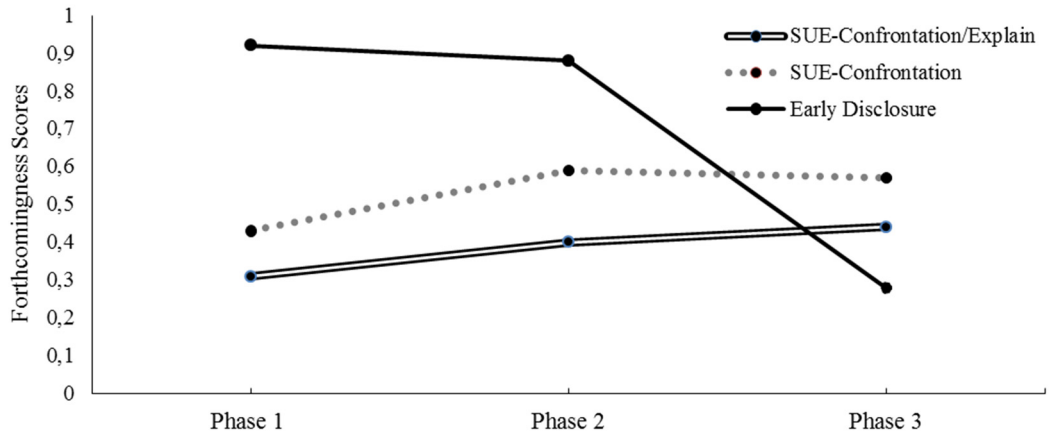

Figure 2.3. Suspects' forthcomingness for each condition broken down by phase (Study III).

Contrary to expectation, the SUE-Confrontation/Explain interview did not result in more admissions than the SUE-Confrontation interview. A closer examination of the SUE-Confrontation/Explain condition revealed that a portion of the suspects were withholding throughout the interview. That is, these suspects were largely inconsistent with the evidence, refrained from providing explanations for these inconsistencies and were withholding also with respect to the critical phase. One possible explanation is that these suspects believed that being inconsistent with their initial story would not serve their goal of being believed; thus, they did not provide explanations for their inconsistencies. However, the interviewer then emphasised that the unaccounted inconsistencies hampered their credibility. This may have resulted in the suspects believing themselves to have failed to provide a credible impression. Thus, they gave up on trying to convince the interviewer of their innocence, and decided to maintain their initial withholding strategies.

It is important that future research improves the SUE-Confrontation/Explain tactic so as to motivate more guilty suspects to pursue their goal of appearing credible during the interview. This issue can be addressed by looking for alternative ways to obtain suspects' explanations as well as alternative ways to provide feedback about these explanations. Finally, the suspects in the SUE-

Confrontation/Explain condition who were forthcoming in the critical phase varied as to how they strived to achieve the goal of being believed. They either tried to match their story to the evidence or maintained their within-statement consistency by sticking to their initial story. In summary, Study III provided more insights into how guilty suspects reason when faced with a strategic interview.

2.5 Study IV

The aims of Study IV were to: (a) explore police officers' planned use of the available evidence to elicit admissions; and (b) examine the reasons behind their preferred evidence disclosure mode. The term 'reason' refers to the goal that an investigator strives to achieve by his or her way of disclosing the evidence to the suspect. To address these aims, investigators were given a fictitious murder case and were asked to plan for an interview with a suspect. The case was created to mimic the situations of relevance for this thesis. That is, situations in which the interviewer possesses evidence about several less critical phases of a crime, but lacks information about a more critical phase (in the fictitious case, the critical phase represented the time period during which the murder had taken place).

2.5.1 Method

A survey was administered to investigators who conduct suspect interviews on a regular basis. The investigators were approached through contact persons at the police academies and at various police departments. Of the 112 investigators who were approached, 74 agreed to participate in the study. Of these 74, five reported as not being involved in interviewing suspects (no information existed about their previous interviewing experience) and they were thus excluded. In the end, the responses from 69 investigators from various police departments in the Netherlands (n = 50), Norway (n = 15), and the U. K. (n = 4) were analysed. The sample consisted of 36 males and 31 females, aged between 24 and 59 (M_{years} = 42.1, SD = 9.3; two investigators did not provide demographic information). Their experience as an investigator ranged from 1 to 28 years (M = 9.9,

SD = 6.8). The average number of hours per week the investigators spent interviewing suspects was 6.1 (*SD* = 5.6). Forty-four (66%) investigators reported having received special training in suspect interviewing. The investigators received either an online version or a pen and paper version of the survey; the survey took approximately 20 minutes to complete.

The fictitious murder case was created by drawing upon inspiration from a real murder case and with additional help from two experienced investigators (not participants in the study). See Appendix H for the case details. The investigators were informed that a murder had taken place and that a suspect had been arrested. The suspect denied any involvement in the crime, but was willing to cooperate and to take part in an interview. The prosecutor's assessment was that the evidence collected thus far was insufficient, and that more information was required to prosecute the case. The suspect had no knowledge as to what information the police possessed, except that he was suspected of the murder in question. The task for the investigators was to plan an interview with the suspect based on the case details.

Importantly, the investigators received a specific objective: *'You are now asked to plan an interview with the suspect based on the case information. In this interview, your objective is to collect new information from the suspect. Specifically, we would like you to focus on eliciting new information to be able to infer whether there is any link (of any strength) between the suspect and the crime scene'*. In other words, the investigators' objective was to elicit admissions about the critical phase, for which information was lacking. After reading the case details, the investigators listed a maximum of 15 pieces of information they believed to be critical for the case. The aim of this was to provide the investigators with the opportunity to focus on what they believed to be important in the case. Next, they picked the three most important pieces of information from their list and answered the following two questions for each of these pieces: '*What question would you ask related to this piece of information*?' and '*What do you want to achieve with that question?*'. The rationale behind limiting the number of responses to three was to obtain a sufficient number of responses to infer the investigators' preferred evidence use while taking up as little of their time as possible.

Codings.

Planned evidence use. Three primary categories were used to assess the investigators' planned use of evidence: (a) strategic; (b) non-strategic; and (c) other. A piece of information was considered as having been used strategically if the investigator invited the suspect for a free recall and/or exhausted the suspect's alternative explanations to the evidence before revealing it (e.g. one investigator planned to strategically use the eyewitness statement indicating that the suspect was drunk at the party by posing the following question: 'Can you tell me what you drank at the party?'). A piece of information was considered as having been used non-strategically if the investigator revealed it early in his or her line of questioning, that is, the investigator made the suspect aware of the evidence before posing questions about it (e.g. 'We have eyewitness evidence indicating that you were drunk at the party. Tell me what you had to drink'). Responses were placed into the 'other' category if the investigator's question did not clearly address a piece of information (e.g. 'What were you doing at the time of the crime?'). Two coders coded a random 20% of the responses based on these pre-determined categories. The percentage of agreement was good, 81.9% (Cohen's $\kappa = .69$, 95% CI [.56, .83]). The disagreements were settled in a discussion between the coders, and one of the coders subsequently coded the remaining responses. Based on this coding, the investigators were categorised into three groups of investigators who planned to use: (1) each piece of evidence in a strategic manner; (2) each piece of evidence in a non-strategic manner; and (3) some pieces in a strategic manner, and some pieces in a non-strategic manner.

Reasons behind planned evidence use. All responses were reviewed and seven categories for the reasons behind the investigators' planned use of evidence were identified: (1) to obtain new information about the evidence already held; (2) to obtain new information about the critical phase of the crime; (3) to obtain new information about a theme unrelated to the crime; (4) to compare the suspect's statement with the evidence already held; (5) to 'encircle' (e.g. explore and rule out alternative explanations for the evidence); (6) to support a hypothesis; and (7) other (statements not captured by any of the categories above). See Table 2.6 for example statements for each of these categories. Two coders coded a random 20% of the responses based on the above list of categories.

The percentage of agreement was 50.77% (Cohen's κ = .42, 95% CI [.28, .56]). Since the interrater reliability was unsatisfactory, it was necessary to switch to another approach. After a long and thorough discussion, it became apparent that the investigators' responses about their reasoning were very much related to the questions they had formulated with respect to how they would present the pieces of evidence they deemed critical. However, the first round of coding was done without much consideration given to the investigators' question formulations. In order to be fair to the thinking processes on behalf of the investigators, the coders meticulously reviewed the responses together, while now taking into account the investigators' responses regarding their planned evidence use. These extensive discussions led to an agreement for the categorisation of each response. When the coders reached a consensus on each response, one person coded the remaining responses. For the few occasions (n = 11) in which categorisation was difficult, this coder and the second coder together made the categorisation. This approach may have increased the subjectivity of the coding, but it is important to stress that the collective thinking of the coders led to high agreement.

2.5.2 Results

Planned evidence use. A total of 543 pieces of evidence were assessed as critical by the investigators. This was calculated by adding up the number of pieces of evidence each investigator listed as critical. On the basis of the 543 pieces of evidence, 320 questions were formulated. Of these 320, 283 (88.4%) were questions in which the evidence was planned to be used (either strategically or non-strategically) as required. However, 37 (11.6%) were questions which did not involve using the piece of evidence assessed as critical, thus these fell into the 'other' category. The evidence was planned to be used in a strategic manner 70% of the time and in a non-strategic manner 30% of the time. A paired samples t-test revealed that the investigators planned to use the evidence strategically (M = 2.87, SD = 2.42) more often than non-strategically (M = 1.23, SD = 1.67), $t(68) = 4.25$, $p < 0.001$, r = .46, 95% CI [.25, .63]. Of all the investigators, 44.9% planned to disclose all the pieces of evidence strategically, while 17.4% planned to disclose all the pieces non-

strategically. The remaining 37.7% planned to disclose some pieces of evidence in a strategic manner and the other pieces in a non-strategic manner.

Table 2.6. Examples of self-reported reasons for planned evidence use (Study IV)

Category	Sample statement 'I plan to use this piece of evidence to…
1. To obtain new information about the evidence already held	…clarify why the suspect made two phone calls very late at night'[a]
2. To obtain new information about the critical phase of the crime	…find out the suspect's route from the party to his home'[b]
3. To obtain new information about a theme unrelated to the crime	…get to know his relationship with the housemate'
4. To compare the suspect's statement with the evidence already held	…compare the suspect's statement about the chain of events with the witness statements'
5. To encircle	…establish who else uses his phone'[a]
6. To support a hypothesis	…prove beyond doubt that the suspect knew the victim'[c]
7. Other	…increase pressure (on the suspect)'

[a] The suspect made two phone calls to a friend after the murder had taken place
[b] This concerns the time period during which the murder took place, i.e. the critical phase
[c] The suspect denied knowing the victim

Reasons behind planned evidence use. The most frequently given reason for planning to use the evidence strategically was to compare the suspect's statement with the evidence (35.5%). This was followed by obtaining new information about the evidence already held (22.3%) and ruling out alternative explanations for the evidence, i.e. encirclement (12.8%). The least frequently reported reasons were to obtain new information pertaining to the critical phase for which the investigators lacked information (9.5%), to obtain new information pertaining to a theme unrelated to the crime (9.5%), and to support a hypothesis (6.6%). Furthermore, the most frequently given reasons to plan to disclose the evidence non-strategically were to obtain new information about the evidence already held (43.4%), to support a hypothesis (24.1%), and to compare the suspect's statement with

the evidence (13.3%). It was rare that the investigators aimed to obtain new information about the critical phase (6.0%), to obtain new information unrelated to the crime (1.2%), or to rule out alternative explanations for the evidence, i.e. encirclement (1.2%).

2.5.3 Discussion

The investigators planned to use the evidence strategically (i.e. obtain the suspect's statement before disclosing a particular piece of evidence) more often than non-strategically (i.e. disclose the evidence to the suspect before posing questions about it). This shows that the majority of investigators adhered to the suspect interviewing guidelines –which are all based on an information gathering approach –in their respective countries.

Two in every five investigators planned to use certain pieces of evidence in a strategic manner, and to use other pieces in a non-strategic manner. Put differently, these investigators planned to alternate between different evidence disclosure modes within the same interview. This finding encourages a reconsideration of the classification used in psycho-legal research when testing evidence disclosure modes. That is, previous research has typically compared interview conditions consisting of only one evidence disclosure mode: early, late or gradual. However, no research to date has tested the efficiency of a combination of these disclosure modes in the same interview for eliciting certain outcomes.

The investigators' goals commonly revolved around gathering information about the themes of evidence for which evidence already existed (e.g. they aimed to compare the suspect's statement with the evidence and obtain new information about the evidence itself). However, it was rare that the investigators planned to use the evidence to gain new information pertaining to the critical phase. One plausible explanation for this finding is that the investigators did not know how to use the available evidence as a means to elicit admissions about a critical phase for which information was lacking. The SUE-Confrontation tactic can be included in police training manuals as one of the tools that can be used in suspect interviews.

Chapter 3: General discussion

The psycho-legal literature is scarce with respect to specific interviewing tactics aiming at eliciting admissions from suspects. The major aim of this thesis was to fill this void by introducing a novel interviewing tactic that draws on the general principles of the Strategic Use of Evidence framework (Granhag & Hartwig, 2015). This tactic, which was labelled the SUE-Confrontation, aimed at eliciting admissions through the strategic use of evidence. The comparative efficacy of the SUE-Confrontation interview was examined in a series of laboratory-based studies. In Study I, the SUE-Confrontation interview was subjected to its first scientific examination. In Study II, the SUE-Confrontation interview was refined, and an additional dependent variable was included to examine more thoroughly the contributions of the principles behind the SUE framework. Furthermore, in Study III, the ecological validity of the SUE-Confrontation interview was increased by providing the suspects with the opportunity to explain the discrepancies in their statements. Another major aim of this thesis was to explore how police officers use the available evidence with the goal of eliciting admissions. Thereby, in Study IV, police officers were surveyed regarding their planned use of evidence, as well as their reasons behind their planning. This thesis fulfilled these two aims by providing empirical support for the efficiency of the SUE-Confrontation tactic in eliciting admissions, and by providing insights into the police officers' planned use of evidence for eliciting admissions.

3.1 Main findings

Basically, three main findings emerged from the studies comprising this thesis. First, the experimental studies provided empirical support for the notion that cues to deceit elicited by strategic interviewing can be utilised to elicit admissions from guilty suspects. Thus, this thesis offers empirical tests of the SUE-Confrontation tactic, through which an interviewer can elicit critical information about a phase of a crime for which information is lacking. Second, the findings lent support to the predicted relationships between the principles underlying the SUE framework (these relations are summarised in the next section). Third, this thesis revealed that it was very rare

that the investigators surveyed planned to use the available evidence as a means to obtain admissions about a phase of a crime for which evidence was lacking.

In the following section, I will first elaborate on the findings of the experimental studies and then discuss their practical and theoretical contributions. Next, I will focus on the investigators' planned use of the evidence and discuss their planning in relation to strategic interviewing. Furthermore, I will suggest areas for future research and acknowledge some critical ethical issues. Finally, I will outline some practical implications and acknowledge the limitations of the work described in this thesis.

3.1.1 The SUE-Confrontation tactic

The general principles behind the SUE framework allow for making the following assumptions: (a) a suspect's perception of the evidence will be malleable to the interviewer's strategy; (b) a suspect's perception of the evidence will affect his or her counter-interrogation strategy; and (c) a suspect's counter-interrogation strategy will dictate his or her verbal response. These assumptions were translated into steps of an interview protocol, whereby the interview would start with step (a), continue with step (b), and end with step (c). In the experimental studies, the interviewer aimed to activate this 'chain reaction' by employing the SUE-Confrontation tactic. That is, the interviewer used cues to deceit elicited by strategic interviewing (i.e. confronted the suspect with statement-evidence inconsistencies) to influence the suspect's perception of the evidence (a). The suspect's inflated perception of the evidence then resulted in the suspect switching his or her counter-interrogation strategy from withholding to forthcoming (b). In turn, the suspect's forthcoming strategy resulted in him or her disclosing information previously unknown to the interviewer (c). For the studies, each step was examined by a dependent variable. Below, I will elaborate on the findings obtained for each.

3.1.1.1 Suspects' statement-evidence inconsistencies. For the SUE-Confrontation tactic, the interviewer initially focused on the available evidence to elicit statement-evidence inconsistencies.

The findings of Studies II and III showed that, for the less critical phases of the crime, the guilty suspects in the SUE conditions were more inconsistent with the evidence than the guilty suspects in the Early Disclosure condition. The guilty suspects, without knowing what information the interviewer held, avoided providing incriminating information, thus contradicting the interviewer's knowledge. Conversely, the guilty suspects who were made aware of the evidence against them presented a story that was consistent with the evidence to avoid contradicting the interviewer's knowledge. These findings are in line with the findings of previous studies (Hartwig et al., 2005; Hartwig et al., 2011; Jordan et al., 2012).

In deception detection research, the purpose of a SUE interview is to elicit diagnostic verbal cues that could be used to assess a suspect's veracity (e.g. Hartwig et al., 2005). In other words, the objective is fulfilled as soon as the interviewer has obtained cues to deceit or truthfulness. For the SUE-Confrontation interview, the two phases for which the interviewer held evidence were conducted in line with a paradigmatic deception detection interview; however, the interview did not end after these two stages. That is, the primary purpose of eliciting cues to deceit was not to detect deception; rather it was to gather new information (admissions). The interviewer confronted the suspect with the statement-evidence inconsistencies elicited, and used these confrontations to affect the suspect's perception of the evidence.

3.1.1.2 Suspects' perceptions of the evidence. In Study I, the guilty suspects perceived the interviewer to have had a substantial amount of information about the critical phase (the phase for which information was lacking), regardless of the interview condition. This finding was attributed to the effect of the control interviews being rather similar to that of the SUE-Confrontation interview. That is, the evidence disclosure in the control interviews affected the suspects' perceptions of the evidence to the same extent as for the SUE-Confrontation interview. In brief, it was speculated that for the Early Disclosure interview, the repeated evidence disclosures, and for the No Disclosure interview, the repeated use of information (which was aimed at initiating the questioning) for the two less critical phases of the interview resulted in the suspects perceiving the

interviewer to have more information than s/he was letting on. Based on this finding, the control interviews were revised for the subsequent studies. That was, for the Early Disclosure interview, instead of using early disclosure repeatedly for each phase, the interviewer presented the evidence in a lump at the outset of the interview (Study II and Study III). For the No Disclosure interview, the interviewer focused only on posing questions about the critical phase, and there was no mention of the interviewer's knowledge about the two phases for which s/he held evidence (Study II).

Studies II and III revealed that strategic interviewing resulted in the guilty suspects perceiving the interviewer to have had more information about the critical phase compared to the guilty suspects in the control conditions. The findings demonstrated that the interviewer's strategy resulted in the suspects overestimating the amount of information against them. For the SUE-Confrontation conditions, based on the interviewer's handling of the evidence in the first two phases of the interview, the suspects inferred that the interviewer probably had more information than s/he was letting on for each phase about which s/he posed questions. Hence, when the interviewer posed an open-ended question about the critical phase, the suspects assumed that the interviewer also had evidence about this phase (that s/he was withholding). Conversely, in the control conditions, the suspects were presented with evidence regarding the first two phases, but not the critical phase. Therefore, the suspects were able to make a more accurate estimation of how much information the interviewer possessed about the critical phase. These findings lent support to the first assumption made based on the SUE principles: A suspect's perception of evidence is susceptible to influence, and strategic interviewing is effective in making a suspect overestimate the amount of evidence an interviewer holds.

Moreover, a positive correspondence was found between the suspects' perceptions of the evidence and their forthcomingness in the SUE-Confrontation conditions (Study III). This showed that the suspects relied on their perceptions whilst deciding on their strategies. Another assumption made based on the SUE principles was also supported: A suspect's perception of the evidence influences his or her counter-interrogation strategy. Furthermore, as predicted, no such correspondence was found for the Early Disclosure condition. In the Early Disclosure condition, the

interviewer was explicit about the evidence s/he possessed, and the suspects waited for the interviewer to present his or her evidence about the critical phase before responding. Since the interviewer did not disclose any evidence about the critical phase, the suspects decided upon an aversive strategy without having to rely on what they believed the interviewer may have known.

3.1.1.3 Admissions. In Study I, the guilty suspects in the SUE-Confrontation condition displayed highly forthcoming behaviour by disclosing admissions about the critical phase (although their level of forthcomingness was not significantly greater than those in the control conditions). Furthermore, in Studies II and III, the suspects who were interviewed strategically disclosed comparatively more admissions about the critical phase. These findings lent support to the last assumption made based on the SUE principles: A suspect's counter-interrogation strategy dictates his or her verbal responses.

The findings can be interpreted through the lens of the self-regulation theory. This theory asserts that one diverts one's efforts toward activities that promote the goal adopted (e.g. Carver & Scheier, 2012). The goal striving process consists of forming a hypothesis based on an external input (i.e. information about the situation) and deciding on the most appropriate strategy. The strategy is then maintained (no behavioural change) or revised (behavioural change), depending on its suitability for goal attainment (MacKenzie, Mezo, & Francis, 2012). The necessity to revise the initial behaviour may arise from the feedback an individual receives about his or her performance. Such a new external input can provide guidance towards choosing a more goal-congruent strategy to maximise the likelihood of success (Locke & Latham, 2002). In the context of investigative interviewing, guilty suspects regulate their behaviours toward the goal of convincing the interviewer of their innocence (Granhag & Hartwig, 2008; Granhag et al., 2015). For the SUE-Confrontation interviews, the suspects' initial verbal responses were to be withholding, the most appropriate strategy they believed to serve their goal. Next, the interviewer delivered (negative) feedback in the form of evidence confrontations, informing the suspects that their withholding strategy was a setback in their goal attainment. That is, the statement-evidence inconsistencies

undermined their credibility. The suspects, who were committed to their goal, thereafter revisited their initial strategy, and replaced it with a new strategy to try to overcome this setback. Thus, these suspects switched from a withholding to a forthcoming strategy to restore their credibility or to refrain from having further loss of credibility. In the next instance, the interviewer posed questions about the critical phase, and the suspects' new forthcoming strategy resulted in them volunteering incriminating information. In summary, strategic interviewing stimulated a revision process in suspects' verbal behaviours by giving feedback that they were failing to create a favourable impression. The suspects' responses to this feedback were to adopt a new strategy, which ultimately yielded admissions.

3.1.1.4 Shifts in suspects' forthcomingness. The findings showed that the guilty suspects in the SUE-Confrontation conditions switched from withholding to forthcoming strategies (Studies II and III). In line with the findings reported in this thesis, Luke and colleagues (2014; 2015) found that guilty suspects who believed that there might be evidence against them were more likely to adjust their counter-interrogation strategies, from less to more forthcoming. In these studies, the suspects altered their strategies before the interview. These findings differ from observations of real-life police interviews in which suspects have rarely been found to change their initial decisions to reveal or conceal information during an interview (Alison et al., 2013; Deslauriers-Varin et al., 2011; Soukara et al., 2009). This difference may be due to the interviewers, whose behaviours were observed, not playing an active role in trying to change the suspects' decisions. Furthermore, Walsh and Bull (2012) found that an interviewer's adherence to the PEACE interviewing guidelines increased the likelihood of a suspect confessing to a crime that s/he initially denied in the same interview. The current thesis expands upon these findings. First, it was found that an interviewer's evidence disclosure strategy can promote a change in a suspect's verbal behaviour during the interview, rather than before the interview. Second, this change may increase the suspect's forthcomingness, and result in incriminating information in the absence of a confession.

Another finding worth mentioning is the timing of the suspects' shifts. In the SUE-Confrontation conditions, the suspects' statement-evidence inconsistencies were found to decrease from the first to the second phase of the interview. This decrease was statistically significant for the SUE-Confrontation conditions in Studies II and III, and non-significant for the SUE-Confrontation/Explain condition in Study III. From these findings one can infer that a number of the suspects in the SUE-Confrontation conditions adopted forthcoming strategies already after the first confrontation, resulting in a decrease in the mean inconsistency scores. Moreover, a portion of the remaining suspects decided to be forthcoming only after the second confrontation. A reasonable explanation for this is that some of the suspects realised just after the first evidence confrontation that their withholding strategy was not paying off. In contrast, other suspects had not yet deemed the confrontations to be a threat to their credibility during the first phase, but perceived the second set of confrontations as a warning that to maintain a withholding strategy could be damaging. Taken together, the guilty suspects who were interviewed in a strategic manner varied as to when they shifted their strategies. This finding has implications for the planning and conducting of interviews. An interviewer who is attentive to behavioural changes in a suspect during an interview may better adjust his or her own strategy. For instance, if a suspect does not react in a desired way to the planned evidence confrontations, the interviewer may then decide to use more pieces of evidence to confront the suspect so that s/he becomes aware of the threat posed to his or her goal attainment. Conversely, if a suspect is quick in adapting to the interviewer's strategy, the interviewer may pose questions regarding the critical phase earlier than planned, and use the remaining pieces of evidence to achieve a different interview goal.

Studies II and III further revealed that a portion of the suspects in the SUE conditions did not alter their strategies in any way. That is, they maintained their withholding strategy throughout the interview. This echoes the findings presented by Luke et al. (2014) where guilty suspects also displayed a bimodal pattern; approximately half of the suspects adopted forthcoming strategies and the other half adopted withholding strategies. There are two possible explanations for this. First, the withholding suspects may have believed that the most appropriate strategy to serve their goal (of

appearing credible) was to conceal critical information, and that being confronted with inconsistencies was not a hindrance to achieving that goal. For instance, research has shown that experienced suspects (i.e. suspects who have been previously interviewed by the police) refrain from providing information to a relatively high extent compared to inexperienced suspects (Granhag et al., 2009). This is mainly due to the experienced suspects' belief that it is the interviewers' task to prove their guilt. Second, the suspects' behaviours could have been a failure of self-regulation. One important factor contributing to goal striving is self-efficacy. This refers to the confidence one has in attaining his or her goal, and a lack of self-efficacy (e.g. 'I do not have the skillset to achieve this particular goal') may lead to goal abandonment (Locke & Latham, 2002). Moving on from this point, it is possible that the withholding suspects in Studies II and III abandoned their goals due to their belief that convincing the interviewer of their innocence was impossible. The negative feedback they received from the interviewer regarding their behaviour after the first confrontation may have led them to believe that the interviewer had already assessed them as guilty. As a result, it might have appeared futile to make any effort to regain their undermined credibility. These findings allow the drawing of the following inference: A guilty suspect's self-efficacy determines his or her willingness to participate actively in the interview. If a guilty suspect believes that it is impossible to restore his or her credibility, s/he may quit striving for this goal. Moreover, if a guilty suspect perceives that there is no risk to his or her credibility, s/he may deem it unnecessary to change his or her withholding strategy. In both situations, the interviewer may have no means left to drive the suspect's behaviour in the reverse direction. Thus, it is important that an interviewer strikes a balance with respect to challenging a suspect's credibility; s/he should neither be too harsh nor too lenient.

3.1.2 Introducing a novel evidence disclosure tactic

Overall, the findings show that the SUE-Confrontation tactic is an efficient tool for eliciting admissions. In brief, if interviewers strategically use what they already have (evidence about some phases of a crime), they can increase their chances of obtaining what they need (admissions about a

phase where they lack information). This tactic is novel in several aspects: (a) it offers a way of using the evidence as a means to an end, i.e. to elicit information about a phase for which information is lacking; (b) it uses cues to deceit to elicit admissions; and (c) it alters guilty suspects' strategies *during* the interview. Moreover, the SUE-Confrontation tactic fills a gap in the psycho-legal literature with respect to specific evidence disclosure tactics. At the broadest level, the SUE-Confrontation tactic falls under the umbrella of information gathering approaches because the primary aim of this tactic is to collect information. At a more specific level, the SUE-Confrontation tactic can be placed within the SUE technique. The SUE framework has primarily been used to elicit cues to deception and truth (see Hartwig et al., 2014). However, the principles underlying the framework can also be used to gather information, and the SUE-Confrontation tactic is the first tactic developed for this particular purpose.

3.1.3 Theoretical contributions of the experimental studies

This thesis makes a theoretical contribution to the body of psycho-legal research by providing empirical support for the relationships between the general principles constituting the SUE framework (Granhag & Hartwig, 2015). Although these principles have already been used in the research program on the SUE technique, the present thesis offers the first in-depth examination of the relationships between them. This thesis shows that: (a) a suspect's perception of how much evidence the interviewer holds is malleable to the interviewer's strategy; (b) a suspect's perception of the evidence affects his or her choice of counter-interrogation strategy; and (c) this strategy affects what the suspect reveals and conceals during the interview. Importantly, the use of the relationships between the principles is not limited to the SUE-Confrontation tactic or to an information gathering context. It is possible to develop a multitude of tactics that are tailored to the need of the interviewer. One example is that the interviewer may disclose some but not other pieces of evidence early in the interview. In such an interview, the suspect may believe that the interviewer does not hold any more information than what s/he has already disclosed. The suspect may then, in his or her statement, contradict a piece of evidence that was not disclosed. In some instances, this

one single statement-evidence inconsistency may be more valuable than a statement in which the suspect contradicts all (or most) of the existing pieces of evidence. Furthermore, in many situations, an interviewer possesses several pieces of evidence with varying degrees of precision. The interviewer may initially focus on the pieces of evidence with a high degree of precision (rather than on the critical piece with a low degree of precision), and disclose these pieces in a stepwise manner after obtaining the suspect's free narrative. That is, the interviewer frames the evidence with an increasing degree of precision, moving from the general to the specific (e.g. from 'We have information indicating that you were at the park' to 'We have information indicating that you met someone at the park and exchanged packages'). Next, the interviewer may focus on the critical piece, and disclose this evidence in its present form, i.e. with a low degree of precision. A suspect who believes that the interviewer possesses more specific information about this particular evidence may provide details the interviewer did not previously know.

These examples demonstrate the adaptability of different evidence disclosure modes to the goal of an interview if the SUE principles are employed. An interviewer can use the evidence in different ways so as to affect a suspect's perception of the evidence, and thereby reach the desired outcome. This way of thinking challenges the definition of 'strategic interviewing' as it is typically used in the psycho-legal literature. That is, researchers commonly categorise the use of evidence as strategic if the pieces of evidence are disclosed late or gradually, and as non-strategic if the pieces are disclosed at the outset of the interview (e.g. Dando & Bull, 2011; Hartwig et al., 2005). However, according to the SUE framework, the definition of strategic interviewing should not be based exclusively on the timing of the evidence disclosure. For example, early disclosure can be strategic if used to steer the interview in the direction of the interview goal, while late disclosure can be non-strategic if the interviewer fails to exhaust alternative explanations before the evidence is disclosed. In summary, the effectiveness of a certain evidence disclosure mode is not dependent upon its timing per se; instead, it is dependent upon whether or not it guides the suspect's behaviour in the desired direction.

3.1.4 Investigators' planned evidence use to elicit admissions

Little is known about investigators' evidence use for situations in which they possess several pieces of evidence pertaining to less critical phases of a crime, but lack information on a more critical phase. The aim of Study IV was to explore investigators' preferred use of the available evidence in such situations. This was achieved by asking the investigators to plan an interview with a suspect in a fictitious criminal case. The objective of the interview was made clear to the investigators: they were to elicit new and critical information about the critical phase of the crime. The findings showed that the investigators planned to use the available evidence in a strategic manner significantly more often than in a non-strategic manner. In other words, the investigators commonly planned to provide the suspect with the opportunity to address the evidence before revealing it, and they less frequently planned to make the suspect aware of the evidence before obtaining his or her statement regarding that particular piece of evidence. The majority of the investigators' preferred evidence disclosure strategies were in line with the recommendations of the suspect interviewing guidelines adopted in the investigators' respective countries (KREATIV in Norway, see Fahsing & Rachlew, 2009; The General Interview Strategy [GIS] in the Netherlands, see Hoekendijk & van Beek, 2015; PEACE model in England and Wales, see Milne & Bull, 1999). Here, it is important to point out that Study IV categorised the investigators' planned evidence use (whether or not it was strategic) based on the traditional categorisation made in the psycho-legal literature. Considering the discussion above with respect to the definition of strategic interviewing (i.e. that it should not be defined solely based on the timing of the disclosure), these findings should be viewed primarily as a description of when the investigators planned to disclose the evidence. The investigators' plans to obtain the suspect's statement about a piece of evidence before disclosing it (which was categorised as strategic use of the evidence) did not necessarily mean that these investigators planned to conduct a strategic interview to elicit admissions.

Study IV also examined the reasons behind the investigators' planned use of the evidence. The investigators were asked to report on what they aimed to achieve with their planned use of the evidence. The findings showed that the most common reason was to expand their knowledge about

the less critical phases of the crime (the phases to which the evidence belonged), and not the critical phase for which information was lacking. To be more specific, the most commonly stated reasons behind the investigators' planned evidence use were to: (a) compare the evidence with the suspect's statement; (b) gain new information about the suspect's activities before and after the crime; and (c) exhaust alternative explanations for the evidence. For instance, one of the pieces of evidence was the suspect's browser history showing that the victim's Facebook profile had been visited repeatedly two days before she was killed. An investigator using this piece of evidence would have the goal of expanding his or her knowledge about this particular piece by: (a) observing whether the suspect contradicted this fact in his statement; (b) finding out more about the suspect's use of social media; or (c) asking whether someone else had access to his computer. In brief, the information that the investigator planned to gather would pertain to the theme of evidence for which s/he planned to pose questions. Furthermore, very few investigators reported having adopted the goal of gathering new information about the critical phase. Put differently, the evidence was rarely planned to be used to gather information about a phase that was different than the one to which this particular piece of evidence pertained. It is possible to interpret these findings as the investigators being motivated to plan to use the evidence as an end in itself (to find out more about the theme of evidence asked about), rather than as a means to an end (to obtain information about the critical phase).

There are possible explanations for these findings. First, the investigators might have adopted an objective other than the objective given to them. The investigators' responses suggested that their objective might have been to expand their knowledge about the less critical phases. However, the data collected contained no lead with respect to why most of the investigators would have disregarded the given objective. Second, the majority of the investigators may have had little knowledge as to how to utilise the available evidence to elicit admissions. In other words, although they might have tried to fulfil the given objective, many of them might have lacked the necessary tools to do so. The latter explanation is perhaps the most likely. The investigators were trained (or were not trained at all) along suspect interviewing guidelines (e.g. the PEACE model), which offer techniques for using the evidence as a means in itself, but do not offer specific tactics for using the

evidence as a means to an end. Put differently, there is no source for investigators to turn to in order to gain knowledge about using the evidence as a means to elicit admissions. Therefore, it is not surprising that the investigators' planning did not comprise the notion of utilising the information gained from evidence disclosure to achieve the objective of eliciting admissions about the critical phase. This highlights a gap in the investigators' repertoire of interviewing tactics. Considering the positive findings obtained in the experimental studies of this thesis, I suggest the SUE-Confrontation tactic to be included in suspect interviewing guidelines as one of the many tools that may be used in interviews. The principles underlying the tactic can improve how investigators handle the available evidence on a tactical level for information elicitation.

3.2 Future directions

The empirical support obtained herein for the relationships between the SUE principles opens up several new avenues for research. Some of these have been mentioned above in the context of potential tactical uses of evidence in information gathering and deception detection contexts. However, the research drawing on the SUE framework can be expanded to many more situations. For instance, interviewing tactics can be studied in situations where the strength of the evidence, the amount of the evidence, the number of suspects, and the number of interviews vary. The tactic can also be tested with different types of crime (e.g. property and personal crimes) and suspects (e.g. inexperienced vs. experienced). Furthermore, more research is required to establish the effects of the SUE-Confrontation interview on innocent suspects in scenarios other than the one used in Study I. In Study I, the critical phase of the innocent suspects' task consisted of going to a library and checking out brochures and books, and there was no logical reason for them to conceal these activities from the interviewer. However, in real-life, things can be more complicated, and an innocent suspect may have several reasons to omit information or to contradict the evidence presented in an interview. For instance, the innocent person may have been seen at the scene of a murder. Although s/he has not committed the murder, s/he may (for one reason or another) conceal

the fact of having been there. It is not yet clear how the SUE-Confrontation interview may affect an innocent suspect's willingness to share information in such situations.

Another topic for future research is suspects' counter-interrogation strategies. Understanding suspects' strategies is key to developing techniques and tactics to enhance information gathering. As argued by Granhag and Hartwig (2008), one of the factors contributing to the efficacy of an interview is the interviewer's ability to mind-read the suspect. Psychological mind-reading refers to the ability to reflect upon another's' mental state and to predict their subsequent response (Perner & Kuhberger, 2005). An interviewer who is successful in correctly anticipating the suspect's verbal strategy will be able to adopt appropriate strategies to counteract it. This highlights the need to investigate suspects' counter-interrogation strategies and their reasoning during interviews. While this thesis advances the current knowledge of this matter, more research is needed.

3.3 Ethical considerations

3.3.1 The experimental design

The experimental design used in Studies I, II, and III required the participants to commit a mock crime, and to lie during the interview. Being engaged in activities that are considered morally wrong may be stressful for the participant. This stress is one of the strengths of such experimental designs as it mimics real-life situations; however, it should not exceed a certain level as it may harm the participant. To overcome this problem, the participants were informed, before the experiment, that their activities would have no real legal consequences, and that they could withdraw from the study at any time without giving a reason and without losing their compensation. Lastly, it was foreseen that some of the activities performed by the participants (e.g. breaking into an office) could have been regarded as suspicious by others, resulting in misunderstanding and placing the participants in a distressing situation. To minimise this possibility, staff members and security personnel (of the university buildings where the participants performed their tasks) were notified

about the experiments, and were asked not to interfere. No such incidents occurred during the experiments.

Ethical approvals for Studies I and II and for Studies III and IV were obtained from the ethics committees at the University of Gothenburg, and at the University of Portsmouth, respectively (for favourable decisions received, see Appendices A, B, and C).

3.3.2 Using the SUE-Confrontation tactic in real-life

One may raise ethical concerns about the use of the SUE-Confrontation tactic, as the interviewer, by withholding the evidence, aims to misdirect the suspect to make incorrect inferences about the interviewer's knowledge (i.e. to make him or her believe that there is more information when in fact there is none). Although, concealing information is a form of deceit according to the paradigmatic definitions of deception (Vrij, 2008), in an investigative interview, the intent behind this concealment (to gather accurate information) can be considered ethical (Hartwig, Luke, & Skerker, in press). According to Hartwig and colleagues, every suspect interview inherently involves deceit, and they argue that an interviewing method becomes unethical when the degree of this deceit is no longer morally acceptable. More specifically, the line is crossed when a method infringes upon the suspect's rights and takes away his or her autonomy, i.e. his or her capacity to make decisions about self-chosen actions. For instance, in a confession-oriented interview, an interviewer who uses a false evidence ploy aims to demonstrate that, in the light of this strong evidence, the suspect has no option other than to confess to the crime. This kind of deceit restricts the suspect's autonomy, and leaves him or her with no choice regarding what to share with the interviewer. Conversely, ensuring a suspect's autonomy will promote ethical interviewing as the suspect will be free to decide what to reveal and conceal. As for the SUE-Confrontation interview, although the interviewer influenced the suspect's perceptions about how much information existed against him or her, the interviewer did not push the suspect to reveal information that s/he did not want to reveal. In summary, the extent to which an interviewer engages in evidence disclosure strategies in a SUE-Confrontation interview lies within the borders of ethical interviewing.

3.4 Practical implications

The experimental set-up of the empirical studies mirrors a situation that occurs rather frequently in real-life. That is, an interviewer possesses some background information about a suspect's whereabouts, but has less or no information about a more critical phase of the crime. This thesis provides empirical support for a novel evidence disclosure tactic, the SUE-Confrontation, which can be used by interviewers in these types of situations. To examine the comparative efficacy of the tactic, pre-scripted interview protocols were used in the studies. In other words, the tactic was used in a rather static way with respect to posing questions about the crime phases. Nevertheless, the SUE-Confrontation tactic can be used in a flexible manner and can be adjusted to the complexities of real-life. For instance, the interviewer may pose questions about a phase of the crime, and may return to this at a later stage of the interview, or s/he may choose to avoid posing questions or disclosing evidence regarding a particular phase. In addition, an interviewer who employs the SUE-Confrontation tactic may accomplish multiple goals by eliciting both verbal cues to deceit (i.e. statement-evidence inconsistencies) and admissions. Both these outcomes are critical when a prosecutor builds a case regarding a suspect's possible involvement in a crime. This thesis also provides empirical support for the relationships between the general principles underlying the SUE framework. These principles stem from the SUE framework, but can be utilised within any information gathering framework. For instance, an interviewer who is trained in the PEACE framework may use the SUE principles. As long as the interviewer possesses evidence, s/he can plan the evidence disclosures by taking into consideration how it will affect the suspect's perception of the evidence, and consequently his or her verbal behaviour.

As established above, withholding evidence from suspects is ethical in an investigative interview and is absolutely necessary in many instances. There is an ongoing discussion within the criminal justice system with respect to the suspects' right to information in criminal proceedings. This discussion concerns, among other things, whether or not the police should be allowed to withhold evidence from suspects and their lawyers before and during suspect interviews, and the

rules and regulations governing this matter differ from country to country. Importantly, a suspect's right to pre-interview disclosure is different from the right to be informed about the criminal act of which s/he is suspected or accused. The latter is a human right, and should not be open to discussion. On one side of the pre-interview disclosure discussion are those who advocate allowing police discretion to decide what information should be revealed to a suspect. The opposing voice argues that when lawyers do not have access to incriminating evidence against their clients, their ability to provide the necessary legal advice to safeguard their clients' best interest is compromised (e.g. Sukumar, Hodgson, & Wade, 2016; also see Sukumar, Wade, & Hodgson, 2016).

Considering the police's duty to find out the truth in an investigation, it is often necessary for an interviewer to employ evidence disclosure techniques and tactics. Any obligation to ensure pre-interview disclosure may compromise this information seeking process. The following examples demonstrate how having to reveal all the evidence early in an interview can threaten the very basis of a criminal investigation. For instance, if a suspect is presented with the evidence at the outset of the interview, s/he is less likely to reveal new information. Knowing what the interviewer does and does not know, a guilty suspect will likely avoid disclosing information beyond what was presented to him or her, and an innocent suspect may perceive the presented evidence as the only topic that is relevant to the interviewer and as a consequence restrict his or her statement to what was presented. Moreover, if a guilty suspect is unaware of the evidence, the interviewer will have the chance to exhaust alternative explanations to the evidence. The guilty suspect who refuses these alternative scenarios will experience difficulty in providing an innocent explanation once the evidence is presented at a later stage of the interview. This will not be achievable in the case of early disclosure. In another scenario, the evidence possessed by the interviewer may be inaccurate (e.g. a statement from an eyewitness whose memory is flawed). Presenting this evidence at an early stage can contaminate the suspect's memory of the events (for an extensive review of the misinformation effect, see Loftus, 2005). In the absence of an opportunity to correct the mistake, the police may end up presenting inaccurate evidence to the prosecutor. Taken together, forced early revelation of evidence adversely affects a criminal investigation by being counter-productive to the very purpose

of the investigation, which is to bring the truth to light. On the other hand, the discretion afforded to the police regarding what to reveal and conceal may facilitate the elicitation of incriminating information from a guilty suspect or exonerating information from an innocent suspect.

3.5 Limitations

One limitation that holds for all empirical studies is that the samples consisted of students and community members who might not have been representative of a typical suspect. However, suspects in real-life situations might be more strongly motivated to convince the interviewer of their innocence. They would presumably be engaged in more strategic decision making and would be less inclined to abandon their goals. In such cases, the SUE interviews may be even more effective than those conducted in laboratory settings (Granhag et al., 2009). Moreover, a limitation of Study III is that the contents of the suspects' explanations were not examined. The explanations provided by suspects may be crucial for an investigation, as they could provide the interviewer with further information about the crime and/or the suspect's veracity. For instance, a thorough explanation, as opposed to a superficial one, might contain a new lead for the investigation.

Study IV has two main limitations. First, there was a lack of interaction between the investigator and the suspect. Thus, it is not possible to comment on the extent to which the investigators' pre-interview plans might have changed as a result of the suspect's behaviour. For instance, a suspect's initial response to the investigator's strategy may be unanticipated, which may hinder the investigator's goal attainment. As a result, to counteract the suspect's strategy, the investigator may consider revising his or her initial plan with respect to the use of evidence that has not yet been disclosed to the suspect. Second, a small number of investigators planned to use the evidence as a means to elicit admissions about the critical phase. However, the study design did not allow for follow-up questions to be posed to these investigators. Such questions might have provided insights into the underlying mechanisms that the investigators believed to yield admissions as a result of their planned evidence use.

Some limitations pertaining to the SUE-Confrontation tactic should also be acknowledged. First, to be able to employ this tactic, the interviewer should possess some potentially incriminating information. Second, before disclosing the incriminating information, the interviewer should ensure its accuracy, which might be difficult in some situations. Confronting the suspects with unverified information might have undesired outcomes, such as false admissions and/or false confessions (Meissner et al., 2014). Third, the SUE-Confrontation tactic cannot be used for interviews in which a suspect exercises his or her right to silence. However, this limitation applies to any technique or tactic used in such a case.

3.6 Conclusions

Three main conclusions can be drawn from the thesis. First, the SUE-Confrontation tactic seems to be effective at eliciting admissions from guilty suspects. This tactic offers a new and ethical way to use the evidence as a means to an end. Second, this thesis offers empirical support to the described relationships between the general SUE principles (Granhag & Hartwig, 2015). It is argued that this model can be utilised in any investigative interviewing framework and is adaptable to many different criminal cases. Finally, the SUE-Confrontation tactic and the principles behind the tactic can be included in police officers' training to improve suspect interviewing practices. In summary, this thesis provides an answer to the question asked at the outset: How should an interviewer use the available evidence in order to elicit new and critical information from a suspect?

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Appendices

Appendix A: Favourable ethical opinion (Study I & Study II)

GÖTEBORGS UNIVERSITET
Psykologiska institutionen

GÖTEBORG UNIVERSITY, *Department of Psychology*

Gothenburg, Sweden, May 23, 2016

To whom it may concern,

This letter concerns the two studies carried out by doctoral student Serra Tekin at the University of Gothenburg (Department of Psychology) to be included in her PhD thesis.

Title of studies:
Study I. Strategic interviewing to elicit admissions: Guilty versus innocent suspects

Study II. Interviewing strategically to elicit admissions from guilty suspects

We have been running structurally similar studies at the Psychology Department for 15 years (40+ individual studies), using – more or less- the same paradigm and experimental setup. The Regional Ethical Review Board has explicitly and repeatedly informed us that we do not have to run each study (using this paradigm) via them. For those occasions where we submitted an application for a singular study, they have just returned the application with the response "We have received your application, but this study is not necessary to run through the Ethics Board".

I attach one such statement from the Regional Ethics Board (unfortunately these statements only come in Swedish). This particular example regards a study where we examined the Scharff-technique (2012); importantly, in terms of structure, participants, instructions and interviews, this study is very similar to the studies that have been carried out for Serra Tekin's PhD (with me as her main supervisor).

Sincerely,

Pär Anders Granhag, PhD
Professor of Psychology
Director of the unit Criminal, Legal & Investigative Psychology (CLIP)

University of Gothenburg
Department of psychology
P.O. Box 500
405 30 Gothenburg
Sweden

pag@psy.gu.se
+46 (0)31 786 1647 (office)
+46 (0)733 107 297 (mobile)

EPN *Regionala etikprövningsnämnden i Göteborg*

Projektansvarig:
Pär-Anders Granhag
Göteborgs universitet
Psykologiska institutionen
Box 500
405 30 Göteborg

Dnr: 812-12

Exp. 2012-12-12

Forskningshuvudman: Göteborgs universitet

Närvarande:
Olle Holmstedt, *ordförande*
Lars Sandman, *vetenskaplig sekreterare, jävig ärende 883-12*

Ledamöter med vetenskaplig kompetens:
Dennis Beach
Elisabeth Björk Brämberg, *jävig ärende 882-12*
Sally Boyd
Bengt Brülde
Claes Corlin, *vetenskaplig sekreterare ärende 883-12*
Kerstin Grundén
Anna-Karin Kollind
Jesper Lundgren, *jävig ärende 801-12*
Bibbi Ringsby Jansson

Ledamöter som företräder allmänna intressen:
Erling Alriksson
Lisbeth Ekman
Bengt Fernström
Marianne Henningsson
Pia-Lotta Ranmalm Lagerlöf

Projekttitel: Scharff-tekniken: Att bekräfta eller dementera viktig information

Beslutsprotokoll från sammanträde med Regionala etikprövningsnämnden i Göteborg, Avdelningen för övrig forskning, den 10 december 2012

Föredragande: Bengt Brülde

Rådgivande yttrande
Etikprövningsnämnden finner att studien inte omfattas av etikprövningslagen och avger följande rådgivande yttrande. Ansökan tillstyrks.

Att denna avskrift i transumt överensstämmer med originalet intygar:

Barbro Morsing, byråsekreterare

Regionala etikprövningsnämnden i Göteborg
Box 401, 405 30 Göteborg
Besöks- och leveransadress: Guldhedsgatan 5A, 413 20 Göteborg
Tel: 031-786 68 21, 786 68 22, 786 68 23, Fax: 031-786 68 18
www.epn.se

Appendix B: Favourable ethical opinion (Study III)

Faculty of Science
University of Portsmouth
St Michael's Building
White Swan Road
PORTSMOUTH
PO1 2DT

Serra.tekin@psy.gu.se; Serra.Tekin@port.ac.uk
11th Nov 2014

Science Faculty Ethics Committee

Protocol Title: SFEC 2014-077, Strategic interviewing of guilty suspects
Date received PI response from 1st review letter: 6th Nov 2014
Date Reviewed: 11th Nov 2014

FAVOURABLE OPINION

Dear Miss Tekin,

Thank you for your submission for ethical review. Having completed their review, members of the Science Faculty Ethics Committee have reached a Favourable opinion of your proposed research.

Please notify the committee of any substantial amendments to the proposed procedures, send an annual report to the committee regarding study progress and a final study report once the study has concluded. Please send these to sci.fac@port.ac.uk. Thank you and the committee wishes you well with your study.

Dr Simon Kolstoe – Vice Chair SFEC

CC -
Holly Shawyer – Faculty Administrator

If you would like to offer any feedback on the Science Faculty Ethics Committee process please email sci.fac@port.ac.uk, to be forwarded to the Chair

Appendix C: Favourable ethical opinion (Study IV)

Science Faculty Ethics Committee
Science Faculty Office
University of Portsmouth
St Michael\s Building
White Swan Road
PORTSMOUTH
PO1 2DT

T: 023 9284 3379
ethics-sci@port.ac.uk

Serra Tekin
Department of Psychology
University of Portsmouth

serra.tekin@psy.gu.se

3rd December 2015

FAVOURABLE ETHICAL OPINION

Study Title: **Police interviewing practices: Collecting information from suspects**
Reference Number: **SFEC 2015-089** (Please quote this in any correspondence)

Thank you for resubmitting your application to the Science Faculty Ethics Committee (SEFC) for ethical review following the 1st SFEC review dated 24/11/15 in accordance with current procedures[1].

I am pleased to inform you that SFEC was content to grant a favourable ethical opinion of the above research on the basis described in the submitted documents listed at Annex A, and subject to standard general conditions[2].

Please note that the favourable opinion of SFEC does not grant permission or approval to undertake the research. Management permission or approval must be obtained from any host organisation, including the University of Portsmouth or supervisor, prior to the start of the study.

Wishing you every success in your research

Yours sincerely,

Dr Simon Kolstoe
Alternate Vice Chair Science Faculty Ethics Committee

Information:
Prof Aldert Vrji
Holly Shawyer - Faculty Administrator

[1] Procedures for Ethical Review, Science Faculty Ethics Committee, University of Portsmouth, October 2012 (to be updated).
[2] After ethical review – Guidance for researchers (Please read).

Statement of compliance

SFEC is constituted in accordance with the Governance Arrangements set out by the University of Portsmouth

After Ethical Review

If unfamiliar, please consult the advice After Ethical Review[2] which gives detailed guidance on reporting requirements for studies with a favourable opinion, including, notifying substantial amendments, notification of serious breaches of the protocol, progress reports and notifying SFEC of the end of the study.

Feedback

You are invited to give your view of the service that you have received from the Faculty Ethics Committee. If you wish to make your views known please contact the administrator at ethics-sci@port.ac.uk

Appendix D: UPR16 Form

FORM UPR16

Research Ethics Review Checklist

University of Portsmouth

Please include this completed form as an appendix to your thesis (see the Postgraduate Research Student Handbook for more information

Postgraduate Research Student (PGRS) Information			**Student ID:**	712232
PGRS Name:	Serra Tekin			
Department:	Psychology	**First Supervisor:**	Prof. Aldert Vrij	
Start Date: (or progression date for Prof Doc students)	**1/September/2013**			
Study Mode and Route:	Part-time ☐ Full-time ☒	MPhil ☐ PhD ☒	MD ☐ Professional Doctorate ☐	

Title of Thesis:	Eliciting admissions from suspects in criminal investigations
Thesis Word Count: (excluding ancillary data)	40,907 words

If you are unsure about any of the following, please contact the local representative on your Faculty Ethics Committee for advice. Please note that it is your responsibility to follow the University's Ethics Policy and any relevant University, academic or professional guidelines in the conduct of your study

Although the Ethics Committee may have given your study a favourable opinion, the final responsibility for the ethical conduct of this work lies with the researcher(s).

UKRIO Finished Research Checklist:
(If you would like to know more about the checklist, please see your Faculty or Departmental Ethics Committee rep or see the online version of the full checklist at: http://www.ukrio.org/what-we-do/code-of-practice-for-research/)

a) Have all of your research and findings been reported accurately, honestly and within a reasonable time frame?	YES ☒ NO ☐
b) Have all contributions to knowledge been acknowledged?	YES ☒ NO ☐
c) Have you complied with all agreements relating to intellectual property, publication and authorship?	YES ☒ NO ☐
d) Has your research data been retained in a secure and accessible form and will it remain so for the required duration?	YES ☒ NO ☐
e) Does your research comply with all legal, ethical, and contractual requirements?	YES ☒ NO ☐

Candidate Statement:

I have considered the ethical dimensions of the above named research project, and have successfully obtained the necessary ethical approval(s)

Ethical review number(s) from Faculty Ethics Committee (or from NRES/SCREC):	SFEC 2014-077 SFEC 2015-089

If you have *not* submitted your work for ethical review, and/or you have answered 'No' to one or more of questions a) to e), please explain below why this is so:

Study I and Study II have been reviewed by the Regional Ethics Board at the University of Gothenburg (see Appendix A).

UPR16 – August 2015

Signed *(PGRS)*:		**Date:** 13/July/2016

Appendix E: Manuscript of Study I

Strategic interviewing to elicit admissions: Guilty versus innocent suspects

Serra Tekin[1], Pär Anders Granhag[1, 2, 3], Leif A. Strömwall[1], Erik Mac Giolla[1]

[1]University of Gothenburg

[2]Norwegian Police University College

[3]University of Oslo

Abstract

We examined an interview tactic, the SUE-Confrontation, deriving from the Strategic Use of Evidence (SUE) framework to elicit admissions from suspects. By confronting the suspects with statement-evidence inconsistencies obtained through strategic interviewing, the interviewer aimed to influence their perception of the amount of evidence s/he held about a critical phase of the crime they were suspected of. In fact, the interviewer lacked information about this phase. The suspects' inflated perception was expected to result in a shift in their counter-interrogation strategies (from less to more forthcoming) and consequently in admissions regarding the critical phase. Participants (N = 120) either performed a mock crime (guilty) or a similar noncriminal act (innocent), after which they were interviewed using either the SUE-Confrontation interview or one of the two control interviews: Early Disclosure of Evidence, and No Disclosure of Evidence. As predicted, the innocent (vs. guilty) suspects disclosed more admissions regarding the critical phase. No differences were found between the interview conditions with respect to the guilty suspects' perceptions of the evidence and their forthcomingness regarding the critical phase. Although the hypotheses were not supported, the results indicated that strategic interviewing may be a promising tool for eliciting admissions about a critical phase for which information is lacking.

Keywords: admissions, strategic use of evidence, innocent and guilty suspects

Strategic interviewing to elicit admissions: Guilty versus innocent suspects

Consider that a crime has been committed, and the investigation has led to a suspect's arrest. The interviewer possesses several themes of evidence pertaining to different phases of the crime (e.g., before and after the crime). These pieces of evidence raise suspicion about the suspect's involvement, but are not conclusive. Moreover, the interviewer lacks information pertaining to a critical time period for which more information would shed light on whether the suspect was involved in the crime. How then should the interview be conducted so as to elicit admissions from the suspect about the critical phase of the crime? The psycho-legal literature fails to provide an answer to this question. To fill this void, the present study will examine an information gathering tactic for cases in which admissions are needed. Here, admissions refer to critical information previously unknown to the interviewer that can provide new leads for further investigation or establishes whether the suspect is linked to the crime without the suspect taking responsibility for the crime (see Perry, 2012).

The interview tactic tested, labelled the SUE-Confrontation, draws on the general principles underlying the Strategic Use of Evidence (SUE) framework (Granhag & Hartwig, 2015). We will first introduce the SUE framework, and then, outline the general principles behind it, and how these principles can be used to elicit admissions.

The Strategic Use of Evidence framework

The majority of studies examining the SUE technique aim to elicit cues to deceit and truthfulness (Hartwig, Granhag, & Luke, 2014; Hartwig, Granhag, Strömwall, & Vrij, 2005). The technique rests on the premise that innocent and guilty suspects differ in their counter-interrogation strategies, that is, in their attempts to convince the interviewer of their innocence (Granhag & Hartwig, 2008). Innocent suspects have no incriminating information to conceal; therefore, they typically adopt forthcoming verbal strategies. In other words, they provide a detailed statement so that the interviewer comes to know the truth. In contrast, guilty suspects possess incriminating information which they must conceal so as to avoid incriminating themselves. Hence, guilty

suspects typically adopt withholding strategies (Hartwig, Granhag, & Strömwall, 2007; Strömwall, Hartwig, & Granhag, 2006).

The interviewer can take advantage of these inherent differences by using the available evidence in a strategic manner. That is, posing questions that will exhaust alternative explanations to the evidence and make the suspect address the evidence before revealing it. In such an interview, an innocent suspect will likely account for the evidence before s/he is made aware that it exists. Hence, his or her statement will be consistent with the evidence. Conversely, a guilty suspect will likely be withholding with the information that s/he believes the interviewer not to hold. Thereby, s/he will provide a statement that is inconsistent with the evidence. Hence, the interviewer will elicit a *statement-evidence inconsistency*, a diagnostic cue to deceit (Hartwig et al., 2014).

Extending the SUE framework

The principles behind the SUE framework can be used to elicit admissions (Granhag & Hartwig, 2015). These principles are: (a) *the suspects' perceptions of the evidence* (i.e., suspects' views about the amount of information the interviewer holds about them and the crime), (b) *the suspects' counter-interrogation strategies,* and (c) *the suspects' verbal responses.* Central to the framework is the relationships between these principles. In brief, a suspect's perception of the interviewer's knowledge will affect his or her choice of counter-interrogation strategy. In turn, the suspect's counter-interrogation strategy will affect his or her verbal response.

For example, if a guilty suspect believes that the interviewer does *not* hold a certain piece of information (A), s/he will adopt a withholding counter-interrogation strategy in order to avoid self-incrimination (e.g., 'I will not incriminate myself by telling them about A'). Conversely, if a guilty suspect perceives the interviewer to hold a certain piece of information (A), s/he might consider it fruitless to withhold the information the interviewer already knows, and decide to be forthcoming with that piece of information (e.g., 'I should mention A, so as not to appear inconsistent with the evidence'). This can be applied to situations in which the interviewer lacks information about a critical phase of a crime. If a guilty suspect believes that the interviewer holds information about the critical phase (when in fact s/he does not), s/he (the suspect) might be more

forthcoming regarding his or her activities during this phase when asked about it. Hence, the interviewer will elicit admissions about the critical phase for which s/he lacks information. Recent research lends support to the notion that guilty suspects' perceptions of the evidence may affect their tendency to conceal or reveal information (Luke, Dawson, Hartwig, & Granhag, 2014; Luke, Hartwig, Shamash, & Granhag, 2015). Specifically, the more evidence guilty suspects believe the interviewer to hold, the more forthcoming they will be, presumably in an attempt to avoid statement-evidence inconsistencies. Such inconsistencies will undermine guilty suspects' credibility, and work against their goal to convince the interviewer of their innocence.

The present study

The tactic tested in this study rests on three basic assumptions: (a) a suspect's perception of how much evidence the interviewer holds is malleable, (b) a suspect's perception of the evidence affects his or her counter-interrogation strategies, and (c) counter-interrogation strategies affect what a suspect reveals or conceals. This tactic is labelled the SUE-Confrontation tactic; as the tactic (a) draws on the SUE framework, and (b) aims to alter the suspect's perception of the evidence, and thereby his or her counter-interrogation strategies, by confronting him or her with inconsistencies obtained through strategic interviewing.

The current study will test to what extent the SUE-Confrontation tactic will elicit admissions from suspects in the situations outlined above: The interviewer possesses evidence pertaining to several (less critical) phases of a crime, but lacks information on the critical phase. To be more specific, assume that the crime (e.g., gaining illegal access to a computer network) is divided into phases, each phase with a different theme. That is, each phase entails a different task which is independent but related to the crime (e.g., meeting an accomplice or mailing a password to grant someone else illegal access). The interviewer has evidence pertaining to two phases of the crime. These pieces are not necessarily incriminating, but raise suspicion about the person's involvement (e.g., an eyewitness indicating that the suspect received something from a man). Moreover, the interviewer lacks information about the critical phase. In the current study, the two

phases for which the interviewer held evidence are referred to as Phase 1 and Phase 3, whereas the phase for which the interviewer lacked information is referred to as Phase 2 (the critical phase).

For the SUE-Confrontation tactic, the available evidence is used as a means to affect the suspect's perception of how much information the interviewer holds regarding the critical phase. The interviewer first focuses on the two phases of the crime for which s/he has evidence (Phases 1 and 3). By interviewing in line with the SUE-technique (i.e., asking open-ended and specific questions regarding the suspect's activities implied by the evidence without revealing the evidence), the interviewer should obtain statement-evidence inconsistencies from a guilty suspect –as guilt suspects typically use withholding strategies (e.g., Hartwig et al., 2007). In the next instance, the interviewer confronts the suspect with these inconsistencies in order to affect his or her perception of the evidence ('They seem to have more information than I first thought'). This altered perception is expected to result in a shift in the suspect's counter-interrogation strategy, from withholding to more forthcoming ('My withholding strategy is not paying off; I need to be more forthcoming in order to avoid further inconsistencies'). Finally, the interviewer turns to the critical phase (i.e., Phase 2, for which s/he has no evidence). Our assumption is that the suspect's more forthcoming strategy will result in admissions about the critical phase.

Unlike the guilty suspects who are expected to alter their strategies (from withholding to forthcoming), the innocent suspects are expected to maintain their initial forthcoming strategies. The rationale behind this assumption is the consistent findings indicating that innocent suspects are verbally forthcoming with critical information (Hartwig et al., 2014), regardless of the interviewer's tactic (e.g., Luke et al., 2014). When the interviewer focuses on Phases 1 and 3, an innocent suspect's forthcomingness is expected to result in statement-evidence *consistencies.* In the next instance, the interviewer confirms that the suspect's statement fits well with the evidence. Being rewarded, the suspect will then be motivated to pursue his or her forthcoming strategy. Hence, when the interviewer turns to Phase 2 and poses questions about this phase, the suspect is expected to adopt a forthcoming strategy, and make admissions.

The SUE-Confrontation interview will be compared to two control interviews for which the evidence is disclosed in a non-strategic manner or not disclosed at all. The first control technique is the Early Disclosure of Evidence, often used in (US) police interviews. In these interviews, the interviewer typically presents the evidence at the outset of the interview (e.g., Leo, 1996). When confronted with the evidence early on, guilty suspects tend to present a story that is consistent with the interviewer's knowledge (e.g., Hartwig et al., 2005). Therefore, we have no reason to expect that the guilty suspects interviewed with the Early Disclosure interview will be motivated to provide incriminating information over and above the information the interviewer will present. In the second control technique, No Disclosure of Evidence, the interviewer does not disclose the evidence, instead poses open-ended questions about each phase. In such an interview, the guilty suspects are expected not to provide any incriminating information. They will likely underestimate the amount of information held by the interviewer; thus will adopt (and maintain) withholding strategies.

Hypotheses. Research shows that forming a hypothesis regarding how much information the interviewer holds is particularly true for guilty suspects (Hartwig et al., 2007). Therefore, our prediction with respect to the perception of the evidence concerns only the guilty suspects. We predicted that the guilty suspects in the SUE-Confrontation condition (vs. control conditions) would overestimate the amount of evidence the interviewer held about the critical phase prior to being asked about this phase (Hypothesis 1).

We predicted a main effect of veracity in that the innocent suspects, compared to the guilty suspects, would disclose more admissions about their activities regarding the critical phase (Hypothesis 2). This effect would be moderated by the interview condition. That is, the difference between innocent and guilty suspects would be smallest for the SUE-Confrontation condition (Hypothesis 3). Furthermore, we predicted that the guilty suspects in the SUE-Confrontation condition (vs. guilty suspects in the control conditions) would reveal more admissions about the critical phase (Hypothesis 4).

Method

Participants and design

A total of 120 adults (85 women and 35 men) were recruited through advertisements at several locations in Gothenburg, Sweden. The participants' age ranged from 20 to 69 (M_{years} = 28.48, SD = 9.35). Upon arriving at the laboratory, they were randomly assigned to one of six conditions (see below). Twenty participants were allocated to each condition. All participants signed an informed consent form. After the experiment, they were fully debriefed and given a movie ticket worth approximately $15. Participation required about one hour per participant.

A 2 x 3 between-group design was employed. Half of the participants were instructed to commit a mock crime (guilty suspects), whereas the other half were instructed to perform day to day activities (innocent suspects). Three interviews were used: SUE-Confrontation, Early Disclosure of Evidence, and No Disclosure of Evidence. The dependent variables were: (a) suspects' subjective ratings of their perceptions of the evidence (i.e., how much information they believed the interviewer to have had about the critical phase prior to being asked about it in the interview), and (b) the number of admissions disclosed by the suspects regarding their activities for the critical phase.

Procedure

Half of the participants were asked to imagine themselves as an animal rights activist, and that they were to undertake a mission to help gain illegal access to a company's computer network to prevent harmful animal testing (guilty condition). The other half were told that the study examined emotional engagement in daily activities, and that they were to send a postcard to someone dear (innocent condition). The participants' mission consisted of three phases, which were independent but related to each other (see below). The activities performed in guilty and innocent conditions were similar in the sense that they generated identical pieces of evidence. All participants kept the written instructions while performing the tasks to avoid the cognitive burden of memorizing them. The participants performed their tasks one at the time.

The mock crime. The mock crime consisted of three phases.

Phase 1. Participants went to the psychology department's café to meet an accomplice to receive a code to infect the computer network later on (guilty) or to write a postcard (innocent). Guilty participants (a) ordered a beverage, and (b) sat down to wait for a man (the accomplice) to approach them with the code. Approximately five minutes later, (c) the accomplice passed them the sheet of paper with the code on it. (d) After a brief dialog (in which the accomplice asked if the participants knew what to do next), the participants left the café. Innocent participants (a) ordered a beverage, and (b) sat down to write their postcards. Approximately five minutes later, (c) a man passed them a business card that promoted language translation services. (d) After a brief dialog (in which the man explained to the participants what was written on the card), they left the café.

Phase 2. Participants went from the café to the department's library to collect an envelope left for them (guilty) or to perform mundane activities (innocent). Guilty participants (a) checked out some brochures lying on a small book case in the middle of the library (so as not to appear suspicious), (b) located a box full of books in which the envelope was hidden. The envelope had an address and a stamp on. They (c) took the envelope and placed the code inside. Innocent participants also (a) checked out the brochures, and (b) the box to see if any book was of interest to them.

Phase 3. Participants left the department for the closest post-box to mail the letter (the envelope with the code) to an accomplice (guilty) or to mail the postcard (innocent). Next, they all visited a convenience store next to the post-box, and bought a pack of chewing gum. This intended to be a cover story for the guilty participants for leaving the department. Once the tasks were complete, the participants returned to the department's laboratory.

The evidence. The actions described above generated six pieces of information, three pieces for each phase (Phases 1 and 3). The evidence for Phase 1 included eyewitness statements indicating that the suspect had (a) been to the café, (b) talked to a man in the café, and (c) received something from the man. The evidence for Phase 3 included eyewitness statements indicating that the suspect had (a) been outside the department, (b) posted a letter, and (c) visited the convenience store next to the post-box. The evidence cast suspicion on the suspects, but did not conclusively

indicate guilt of involvement in any criminal activity. The interviewer used one of the three pieces of evidence in Phases 1 and 3 regarding the suspect's whereabouts to initiate the questioning about these phases in the interview (Phase 1: the suspect had been to the department's café; Phase 3: the suspect had left the department for a short while). Put differently, these pieces of information were downplayed and used to limit the suspect's response to the particular phase that the interviewer wanted to ask about. Importantly, the interviewer did not possess any information pertaining to Phase 2 (i.e., the critical phase)[i].

The interviews. Once the participants returned to the laboratory, they were given new instructions. They were told that they were suspected of committing a crime (i.e., helping a group gain illegal access to a company's computer network) and that they would be interviewed. There were a number of people suspected, and the interviewer did not know if the participant was guilty or innocent. The participants' goal was to convince the interviewer of their innocence. Put differently, the guilty suspects were to deny involvement in any criminal act while the innocent suspects were to be truthful about their activities. They were also instructed not to mention taking part in a research study. To increase their motivation, they were told that if they made a credible impression their names would be entered in a raffle to win five extra movie tickets. In fact, all names were entered in the raffle. The participants were then taken to an interview room and given 10 minutes to prepare for the interview.

The interviews were conducted by three trained research assistants (all female) who were informed about the case details (i.e., the available evidence, and the lack of information about Phase 2), but were blind to the suspects' veracity and to the hypotheses of the study. They were instructed to adopt a neutral style during the interview (neither overfriendly nor accusatory). The number of interviews that they conducted was 11, 55 and 54. The interview protocols were divided into three phases, with each phase corresponding to one of the three phases. The interviewer posed questions for Phases 3, 1 and 2, respectively (the rationale behind this order is explained below). All interviews were audiotaped and transcribed verbatim.

SUE-Confrontation interview. The structure of the interview for Phases 3 and 1 was identical and consisted of three steps for each phase: (1) an open-ended question about the suspect's whereabouts, (2) two specific questions about the suspect's activities implied by the evidence, and (3) disclosure of the evidence followed by a confrontation/confirmation (for the interview protocol, see Appendix A). For step 1, the questions for Phases 3 and 1 were initiated by using the two pieces of information regarding the suspect's whereabouts. For step 3, the disclosure of the evidence was dependent on the suspect's denial or confirmation. If the suspect responded with a denial, the interviewer confronted him or her with the related piece of evidence. If the suspect responded with a confirmation, the interviewer confirmed that what s/he had said fitted the evidence. Lastly, the interviewer posed an open-ended question regarding Phase 2. Importantly, the procedure for Phase 2 was identical across all three interview conditions.

The rationale behind the non-chronological order of the questions (Phase 3 and then Phase 1) was to gradually increase the possible number of confrontations for the guilty suspects. More specifically, for guilty suspects, Phase 3 was expected to result in one confirmation (admitting having been at the convenience store –this was unrelated to the criminal activity, thus was safe to admit to) and one denial (denying having mailed a letter). Consequently, Phase 3 would result in one evidence confrontation based on the suspects' denial. In comparison, we expected Phase 1 to result in two denials (denying having talked to someone and having received something whilst in the café), and consequently, in two evidence confrontations. The increasing number of confrontations would gradually decrease the guilty suspects' credibility. In turn, the suspects would be more motivated to restore their undermined credibility when faced with the questions regarding the critical phase.

***Early Disclosure interview*.** This interview differed from the SUE-Confrontation interview with respect to the timing of the evidence disclosure. The structure of the interview for Phases 3 and 1 was identical and consisted of two steps for each phase: (1) disclosure of evidence during which the two pieces of evidence were revealed, and (2) an open-ended question about the suspect's

activities. The questioning procedure for Phase 2 was identical to that used for the SUE-Confrontation interview (for the interview protocol, see Appendix A).

***No Disclosure interview*.** For this condition, the interviewer did not reveal the evidence, and only posed an open-ended question regarding the suspect's activities in Phase 3 and Phase 1, respectively. The open-ended questions were initiated with the two pieces of information regarding the suspect's whereabouts. The questioning procedure for Phase 2 was identical to those used for the SUE-Confrontation and the Early Disclosure interviews (for the interview protocol, see Appendix A).

Post-interview questionnaire. Following the interview, the participants were informed that the role-playing part of the experiment was over, and they were to fill in a post-interview questionnaire. First, the participants reported their age and gender. Following this, they reported how motivated they had been to (1) perform the tasks and (2) convince the interviewer of their innocence (on 7-point scales; 1 = *not at all motivated*, 7 = *very motivated*). Finally, they rated how much information they believed the interviewer to have held concerning their activities in Phase 2 prior to being asked about it in the interview ('During the interview, right before you received questions about the library, how much information did you think the interviewer knew about your activities in the library?'; on 7-point scale, 1 = *the interviewer had very little information*, and 7 = *the interviewer had a lot of information*).

Coding. The admission score was calculated by adding up the number of pre-determined critical details in the suspects' statements for the critical phase (range 0-3). The suspects received 1 point each for mentioning the following pieces of information: (1) being in the library, (2) checking brochures in the library, and (3) poking around in a box full of books in the library. A random 30% of the transcripts were independently rated by two coders with respect to admissions. Intra-class correlation was calculated, showing excellent agreement of .98, 95% CI [.97, .99]. The one disagreement was settled in a discussion between the coders. One of the coders coded the remaining transcripts.

Results

Preliminary analyses

The suspects reported being highly motivated to perform their tasks; no significant difference was found between guilty (M = 6.00, SD = 0.84) and innocent suspects (M = 6.03, SD = 0.96), $t(118) = -0.20$, $p = .84$, $r = .02$, 95% CI [-.14, .19]. As for their motivation to convince the interviewer of their innocence, the guilty suspects' ratings (M = 6.08, SD = 0.96) were significantly higher than those of the innocent suspects (M = 5.53, SD = 1.35), $t(118) = -2.58$, $p = .01$, $r = .23$, 95% CI [.05, .39]. However, the mean scores for both veracity conditions were at the high end of the scale, thus it is fair to conclude that all suspects were highly motivated. We further tested for interviewer effects, but found no indication of any interviewer eliciting different outcomes than the other interviewers. This was tested with Interviewer X Condition interactions for each dependent variable, all p-values > .20.

Hypothesis-testing analyses

Suspects' perceptions of the evidence. We predicted that the guilty suspects in the SUE-Confrontation condition (vs. guilty suspects in the control conditions) would perceive the interviewer to have held more information about Phase 2 prior to being asked about this phase in the interview. A one-way ANOVA was conducted to compare the effect of interview style on the guilty suspects' perceptions of the evidence. Planned comparisons showed that the suspects in the SUE-Confrontation condition did not perceive the interviewer to have had more information about the critical phase compared to the suspects in the Early Disclosure and No Disclosure conditions combined, $t(56) = 1.30$, $p = .20$, $r = .17$, 95% CI [-.09, .41]. Hypothesis 1 was not supported. There was no difference between the two control conditions, $t(56) = -1.08$, $p = .28$, $r = .14$, 95% CI [-.12, .38]. See Table 1 for descriptive statistics.

Admissions. A 2 x 3 two-way ANOVA was conducted with Veracity (innocent vs. guilty) and Interview (SUE-Confrontation vs. Early Disclosure vs. No Disclosure) as between-subject factors and admission score as the dependent variable. There was a main effect of veracity on the number of admissions disclosed by the suspects, $F(1,114) = 19.96$, $p < .001$, $r = .37$, 95% [.20, .51].

The innocent suspects were more forthcoming (M = 2.97, SD = 0.26) than the guilty suspects (M = 2.35, SD = 1.02). Hypothesis 2 was supported. The main effect of interview style (F(2,114) = .28, p = .76, r = .10, 95% [-.08, .27]), and the interaction effect (F(2,114) = .10, p = .90, r = .12, 95% [-.06, .29]) were not significant. Hence, Hypothesis 3 was not supported. See Table 1 for descriptive statistics.

We predicted that the guilty suspects in the SUE-Confrontation condition (vs. guilty suspects in the control conditions) would reveal more admissions when asked about the critical phase. A one-way ANOVA was conducted to compare the effect of interview style on the guilty suspects' admission scores. The results were in line with that prediction, but not to a significant degree. Planned contrasts revealed that the suspects in the SUE-Confrontation condition did not disclose more admissions about the critical phase compared to the suspects in the Early Disclosure and No Disclosure conditions combined, t(57) = 0.53, p = .60, r = .07, 95% CI [-.02, .46]. Hence, Hypothesis 4 was not supported. No difference was found between the two control conditions, t(57) = 0, p = 1, r = .13, 95% CI [-.06, .43].

Discussion

This study was the first attempt to test an interview tactic, namely the SUE-Confrontation tactic, to elicit admissions for cases in which the interviewer lacked information about a critical phase of a crime, but possessed information about other phases. We found no support for the predictions that the guilty suspects in the SUE-Confrontation condition (vs. guilty suspects in the control conditions) would (a) perceive the interviewer to have had more information about the critical phase, and (b) disclose more admissions about this particular phase. Nevertheless, the guilty suspects in all three conditions reported to have perceived the interviewer to have had a substantial amount of information regarding the critical phase and disclosed a fairly high number of admissions.

Based on the guilty suspects' inflated perceptions and the high number of admissions they disclosed in all three conditions, one may infer that the mechanism through which the SUE-Confrontation interview aimed to elicit admissions might have been at play also for the Early

Disclosure and No Disclosure interviews. That is, for every interview condition, the interviewer influenced the suspects' perceptions of the evidence about the critical phase by using the evidence strategically (the reason why the evidence disclosures in the control conditions may be 'strategic' will be explained below). This inflated perception of the evidence ('The interviewer has more information than I initially thought') resulted in the suspects switching from a less to a more forthcoming strategy in an attempt to be consistent with what they believed the interviewer to know.

Each interview protocol was divided into three phases, each phase corresponding to one of three phases of the crime. For the Early Disclosure interview, the interviewer first confronted the suspects with the evidence in Phase 3. After obtaining the suspects' free narratives for this phase, the interviewer confronted them with more evidence, this time for Phase 1. At his stage, the suspects were faced with the fact that the interviewer actually had more evidence than they initially thought. This might have resulted in an overestimation of the evidence the interviewer held about Phase 2, the critical phase. Furthermore, for the No Disclosure interview, the information indicating the suspects' whereabouts in Phases 1 and 3 were used to initiate the line of questioning for these phases, rather than to confront the suspects with evidence. However, the guilty suspects, as they were wary to what the interviewer held against them, might have perceived these initiations as a demonstration of the evidence against them. As a result, these repeated evidence confrontations in Phases 1 and 3, as in the Early Disclosure interview, might have led to an overestimation of the amount of information the interviewer held about the critical phase. In summary, it is possible that, the evidence disclosures in the control interviews may have (unpredictably) functioned as tactics that influenced the suspects' perceptions of the evidence. In turn, the guilty suspects became more forthcoming and disclosed admissions to the same extent did the guilty suspects in the SUE-Confrontation condition. Future research is necessary to test whether this explanation is valid.

The guilty suspects' given tasks in Phase 2 may also account for the high number of admissions disclosed by them. These tasks entailed the suspects to be in the library, check brochures and poke around a box of books, all of which can have an innocent explanation. Based in this, the guilty suspects may have thought that disclosing these (non-incriminating) activities during

the interview would not hinder their goal of being assessed as innocent. On the contrary, divulging that information would serve this goal. Such reasoning on behalf of guilty suspects is in line with the assertions of the self-regulation theory. According to this social-cognitive framework, one regulates his or her behavior towards a desired goal (Carver & Scheier, 2012). Translated to an investigative interviewing context, guilty suspects regulate their behavior towards the goal of convincing the interviewer of their innocence. This requires the suspects to strike a balance between offering details (to appear convincing and credible) and concealing incriminating information (to avoid being assessed as guilty). Given this, the guilty suspects in the current study might have regulated their verbal behavior to be believed by providing non-incriminating details about their activities in the critical phase, while concealing their crime-related activity (i.e., taking the envelope left by the illegal group[ii]).

Finally, as predicted, the innocent suspects disclosed more admissions in the critical phase of the crime compared to the guilty suspects across all conditions. In fact, 59 out of 60 innocent suspects received the highest possible admission score. In other words, no matter how the evidence was played in the interview, the innocent suspects disclosed all they held. This finding echoes those in previous studies showing that innocent suspects are forthcoming with information (Hartwig et al., 2014; Luke et al., 2014; Kassin, 2005; Strömwall et al., 2006).

Limitations

Several limitations of the study merit attention. First, the sample consisted of students and community members and may therefore not be representative of a typical suspect. However, suspects in real-life situations who aim to convince the interviewer of their innocence will presumably be more motivated to employ counter-interrogation strategies. Hence, it is possible that the SUE-Confrontation tactic may be equally or more effective in real-life settings than in laboratory settings. Second, the only feasible way to tap the suspects' perceptions of evidence was to ask about this *after* the full interview. That is, the suspects were faced with the task of trying to remember how much information they estimated the interviewer to have held about the critical phase. Such retrospective self-reports may be unreliable for several reasons (e.g., suspects'

responses may have been influenced by the questions received about the critical phase). On the other hand, such limitations should apply to all conditions. Moreover, the phrasing of the question that aimed to obtain the suspects' perception ratings ('During the interview, right before you received questions about the library, how much information did you think the interviewer knew about your activities in the library?') may have given the suspects the impression that the interviewer knew that the suspects had been in the library, when in fact s/he did not. This may have influenced the suspects' ratings. Future research should remedy this shortcoming. Finally, we did not use any measures examining the suspects' verbal strategies in the less critical phases of the crime. Such a measure that examines the extent to which a suspect's level of forthcomingness shifts throughout the interview may contribute to our understanding of the impact of different evidence disclosure modes on suspects' strategies.

Conclusions

We found that the innocent suspects were highly forthcoming regardless of the interview they faced. This demonstrates that the SUE-Confrontation tactic encouraged the innocent suspects to provide information. Moreover, the findings suggest that the evidence can be used in various strategic ways. For instance, early disclosure of evidence may be strategic if used to make the suspect believe that the interviewer holds more evidence than s/he initially revealed to the suspect. Such strategic disclosures can be used as a vehicle to elicit admissions by affecting a suspect's perception of the evidence, and thereby, his or her counter-interrogation strategies. We believe that it is worthwhile to pursue research on the efficiency of strategic interviewing for eliciting admissions.

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[i] In Phase 1, the ground truth was established by the accomplice who confirmed that each participant had been at the café and had talked to him. In Phase 2, another accomplice, whom the participants have not seen before, observed the participants performing their activities by sitting in the library in the disguise of a student. Finally, for Phase 3, the proximity of the department to the convenience store allowed the experimenter to observe the participants' activities behind a window without them noticing.

[ii] Only six guilty suspects (two suspects from each interview condition) admitted to taking something from the box during the interview.

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Table 1.
Descriptive statistics for dependent variables broken down by interview condition

	Innocent Suspects			Guilty Suspects		
Dependent variable	SUE-Confrontation M (SD)	Early Disclosure M (SD)	No Disclosure M (SD)	SUE-Confrontation M (SD)	Early Disclosure M (SD)	No Disclosure M (SD)
Perceptions of the evidence	5.20 (1.85)	5.30 (1.53)	4.90 (1.48)	5.55 (1.57)	5.25 (1.55)	4.68 (1.77)
Admissions	3.00 (0.00)	3.00 (0.00)	2.90 (0.45)	2.45 (1.05)	2.30 (0.98)	2.30 (1.08)

APPENDIX A

SUE-Confrontation Interview

Introduction

Hi, my name is … and I will be interviewing you. The reason why you are here is because you are under suspicion of having helped a group gain illegal access to a company's computer network. I do not know if you are guilty or not, and that's why I want to ask you: Have you helped a group gain access to a computer network?[iii]

OK, so you are denying that you have done this?

If you are innocent as you claim, then there is no reason for me to keep you here any longer than necessary. But, for this to happen, you will have to help me by telling me how things really are.

Questions about Phase 3

1. [Open-ended Question] We have information indicating that you, earlier today, left the department for a short while. I now want you to focus only on what you did then. I want you – in as much detail as possible – to talk about what you did while you were not at the department.

[Follow-up Question] Is there anything more you can tell me about this?

2. [Specific Questions] OK, thank you. I now have some specific questions about what you did. Even if you have already answered them I want you to do so again.

2.1. Were you in the convenience store Karamellbyrån at Linnéplatsen?
2.2. Did you mail a letter after you had left the department?

***Responses to specific questions*: Confrontations/Confirmations**

YES/YES: You said you have been in the store at Linnéplatsen, and it fits well with the eyewitness statements we have. In addition, you said you have mailed a letter today, also consistent with the statements we have. Moving on.

YES/NO: You said you have been in the store at Linnéplatsen, and it fits well with the eyewitness statements we have. Furthermore, you said that you have not mailed a letter today, but we have eyewitness statements indicating that you have mailed a letter today. So, what you say does not fit the witness statements we have. But we have to return to this later, now we have to move on.

NO/YES: You said you have mailed a letter earlier today, which fits well with the eyewitness statements we have. Furthermore, you said you have not been in the store at Linnéplatsen, but we have eyewitness statements indicating that you have been in the store. So, what you say does not fit the witness statements we have. But we have to return to this later, now we have to move on.

NO/NO: You said you have not been in the store at Linnéplatsen, but we have eyewitness statements indicating that you have actually been in the store. So, what you say does not fit the witness statements we have. Furthermore, you said that you have not mailed a letter, but we have eyewitness statements indicating that you have actually mailed a letter. So, what you say does not fit the witness statements we have. But we have to return to this later because now we have to move on.

Questions about Phase 1

1. [Open-ended Question] We have information indicating that you, earlier today, visited the department's café. I want you to focus only on what you did in the café. I want you – in as much detail as possible - to talk about what you did in the café.

[Follow-up Question] Is there anything more you can tell me about this?

2. [Specific Questions] OK, thank you. I have some specific questions about what you did in the café. Even if you have already answered the questions I want you to answer them again.

2.1. Did someone talk to you in the café, in addition to the employees?
2.2. Did you get anything from anyone-except the employees-while you were sitting in the café?

***Responses to specific questions*: Confrontations/Confirmations**

Similar in structure to the confrontations/confirmations in Phase 3

Questions about Phase 2

1. [Open-ended Question] Okay, now I want you to think back to what you did after you left the café, but before you left the department. I want you – in as much detail as possible – to tell me about what you did during that time period.

If the suspect mentions the library:
2. [Open-ended Question] You mentioned that you were in the department's library, can you – in as much detail as possible – talk about what you did in the library?

[Follow-up Question] Is there anything more you can tell me about what you did in the library?

If the suspect does not mention the library
[Follow-up Question] Is there anything more you can tell me about what you did after you left the café, but before you left the department?

Closing

Thanks for your help. Please stay in the room until the experimenter returns. Thank you.

[iii] No participant responded 'yes' to this question

Early Disclosure Interview

Introduction

Same as in SUE-Confrontation Interview

Questions about Phase 3

1. [Disclosure of Evidence] We have information indicating that you, earlier today, left the department. We also have eyewitness statements indicating that you have been in the store Karamellbyrån at Linnéplatsen, and that you have mailed a letter outside that store.

2. [Open-ended Question] I now want you to focus only on what you did at Linnéplatsen. I want you – in as much detail as possible – to tell me about what you did at Linnéplatsen.

[Follow-up Question] Is there anything else you can tell me about what you did at Linnéplatsen?

Questions about Phase 1

1. [Disclosure of Evidence] Thank you. We also have information indicating that you, earlier today, visited the department's café. We have additional information from a very reliable witness who stated that a man talked to you while you were there and also handed you something.

2. [Open-ended Question] I now want you to focus only on what you did in the café. I want you – in as much detail as possible – to tell me what happened in the café.

[Follow up Questions] Is there anything else you can tell me about what you did in the café?

Questions about Phase 2 & Closing

Same as in SUE-Confrontation Interview

No Disclosure Interview

Introduction

Same as in SUE-Confrontation Interview

Questions about Phase 3

1. [Open-ended Question] We have information indicating that you, earlier today, left the department. I now want you to focus only on what you did then. I want you – in as much detail as possible – to talk about what you did while you were not at the department.

[Follow-up Question] Is there anything more you can tell me about this?

Questions about Phase 1

1. [Open Question] Thank you. We also have information indicating that you, earlier today, visited the department's café. I want you to focus only on what you did in the café. I want you – in as much detail as possible – talk about what you did in the café.

[Follow-up Question] Is there anything more you can tell me about what you did in the café?

Questions about Phase 2 & Closing

Same as in SUE-Confrontation Interview

Appendix F: Manuscript of Study II

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Interviewing Strategically to Elicit Admissions From Guilty Suspects

Serra Tekin
University of Gothenburg

Pär Anders Granhag
University of Gothenburg and Norwegian Police University College

Leif Strömwall and Erik Mac Giolla
University of Gothenburg

Aldert Vrij
University of Portsmouth

Maria Hartwig
John Jay College of Criminal Justice, City University of New York

In this article we introduce a novel interviewing tactic to elicit admissions from guilty suspects. By influencing the suspects' perception of the amount of evidence the interviewer holds against them, we aimed to shift the suspects' counterinterrogation strategies from less to more forthcoming. The proposed tactic (SUE-Confrontation) is a development of the Strategic Use of Evidence (SUE) framework and aims to affect the suspects' perception by confronting them with statement-evidence inconsistencies. Participants (N = 90) were asked to perform several mock criminal tasks before being interviewed using 1 of 3 interview techniques: (a) SUE-Confrontation, (b) Early Disclosure of Evidence, or (c) No Disclosure of Evidence. As predicted, the SUE-Confrontation interview generated more statement-evidence inconsistencies from suspects than the Early Disclosure interview. Importantly, suspects in the SUE-Confrontation condition (vs. Early and No disclosure conditions) admitted more self-incriminating information and also perceived the interviewer to have had more information about the critical phase of the crime (the phase where the interviewer lacked evidence). The findings show the adaptability of the SUE-technique and how it may be used as a tool for eliciting admissions.

Keywords: admissions, statement-evidence inconsistency, strategic use of evidence

Suspect interviews should focus on the search for relevant and critical information, such as suspect admissions. Admissions are crime-related facts which provide a basis for inferences of guilt or innocence (e.g., Perry, 2012; Slough, 1959). An admission refers to critical information unknown to the interviewer that might provide new leads for further investigation or establish links between a suspect and a crime. Some studies use the terms admission and confession interchangeably; however, here we make a distinction between the two. By confession we mean a narrative statement in which the suspect takes responsibility for the commission of the crime. An admission, on the other hand, is information that potentially incriminates the suspect (e.g., admitting being at the crime scene), but does not involve the suspect agreeing to have committed the crime. Incriminating admissions are highly valuable when a case is short of evidence and lacks a confession.

A key challenge in suspect interviews is that guilty suspects typically steer clear of providing incriminating information (Granhag, Clemens, & Strömwall, 2009; Strömwall & Willen, 2011). This raises the question of how to elicit admissions from guilty suspects. Although interrogation manuals provide various techniques to elicit admissions and confessions (e.g., Inbau, Reid, Buckley, & Jayne, 2001), these methods are rarely supported by research. Some have even shown to be ineffective (Holmberg & Christianson, 2002) and/or unethical (Vrij, 2003). Turning to the science of interviewing, researchers have generated a substantial body of literature on risk factors for false confessions (e.g., Kassin et al., 2010) but there is less research on techniques that may result in true admissions or true confessions (Meissner, Hartwig, & Russano, 2010). Regarding the latter, empirical research suggests that humane (e.g., rapport building) approaches are more effective at eliciting confessions than dominant (e.g., accusatory) approaches (Alison, Alison, Noone, Elntib, & Christiansen, 2013; Evans et al., 2013; Mann et al., 2013).

Few studies, however, have addressed specific tactics on how to elicit admissions during interviews. The present article will aim to fill this gap by examining a novel tactical approach for eliciting admissions from guilty suspects via strategic interviewing. The approach draws on the general principles behind the Strategic Use

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Serra Tekin, Department of Psychology, University of Gothenburg; Pär Anders Granhag, Department of Psychology, University of Gothenburg and Norwegian Police University College; Leif Strömwall and Erik Mac Giolla, Department of Psychology, University of Gothenburg; Aldert Vrij, Department of Psychology, University of Portsmouth; Maria Hartwig, Department of Psychology, John Jay College of Criminal Justice, City University of New York.

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Correspondence concerning this article should be addressed to Serra Tekin, Department of Psychology, University of Gothenburg, PO Box 500, SE 40530, Gothenburg, Sweden. E-mail: serra.tekin@psy.gu.se

of Evidence (SUE) technique (Granhag & Hartwig, 2015; Hartwig, Granhag, Strömwall, & Vrij, 2005). Below we will outline these general principles, how they are related, and how they pertain to the suggested tactical approach.

Extending the SUE Framework

The majority of studies examining the SUE-technique aim to elicit cues to deception and truth (Hartwig, Granhag, & Luke, 2014). The technique rests on the premise that innocent and guilty suspects differ in their counterinterrogation strategies; that is, in their attempts to convince the interviewer of their innocence (Granhag & Hartwig, 2008). Research shows that innocent suspects are verbally forthcoming, whereas guilty suspects tend to withhold critical information (Hartwig, Granhag, & Strömwall, 2007; Strömwall, Hartwig, & Granhag, 2006). The evidence held by the interviewer can be used to exploit this difference. If the interviewer uses the evidence strategically (i.e., posing questions that will exhaust a suspect's possible alternative explanations to the evidence and make the suspect address the evidence before it is revealed to him/her), it is likely that a guilty suspect will provide a statement that is inconsistent with the evidence. Hence, the interviewer elicits *statement-evidence inconsistencies*, a diagnostic cue to deceit (Hartwig et al., 2014).

The SUE-technique is based on a set of general principles that could be effective in eliciting admissions from guilty suspects. Central to the approach is the suspect's perception of the evidence held against him/her and how this perception influences his or her counterinterrogation strategies (Granhag & Hartwig, 2015). The perception of the evidence refers to the suspect's views about the amount of information the interviewer holds about the crime (Hartwig et al., 2007). As noted above, guilty suspects tend to withhold information during interviews because of their reluctance to reveal incriminating information. Recent research, however, shows that guilty suspects' perception of the evidence may affect their tendency to conceal or reveal information (Luke, Dawson, Hartwig, & Granhag, 2014; Luke, Hartwig, Shamash, & Granhag, 2014; Tekin, Granhag, & Mac Giolla, 2014). Specifically, the more evidence guilty suspects believe the interviewer holds, the more forthcoming they will be, presumably in an attempt to avoid statement-evidence inconsistencies.

For example, if a suspect believes that the interviewer does *not* hold a certain piece of information (e.g., "The interviewer does not seem to know where I was on Sunday evening"); s/he would adopt a withholding strategy in order to avoid self-incrimination (e.g., "I will not incriminate myself by telling them that I was in the park where the crime occurred"). Conversely, if the suspect perceives the interviewer to hold a certain piece of information (e.g., "The interviewer probably knows that I was in the park on Sunday evening"), s/he might consider it fruitless to withhold information the interviewer already knows. Hence, the suspect will be forthcoming with that piece of information (e.g., "I should mention that I was in the park during that evening").

The Present Study

The tactical approach introduced rests on three basic assumptions: (a) a suspect's perception of how much evidence the interviewer holds is malleable, (b) a suspect's perception of the evidence affects his or her counterinterrogation strategies, and (c) counterinterrogation strategies affect what a suspect reveals or conceals during the interview. The goal of the current study is to influence the suspect's perception of the evidence through strategic interviewing, to make him/her more forthcoming. This new tactical approach is labeled the SUE-Confrontation tactic, as the tactic (a) draws on the SUE framework and (b) aims to alter the suspect's counterinterrogation strategies by confronting him/her with inconsistencies obtained by strategic interviewing.

For example, suppose that a crime (e.g., assisting in the preparations for a sabotage) is divided into phases, each phase with a different theme. That is, each phase entails a different task which is independent but related to the crime (e.g., meeting an accomplice, stealing a file, gathering information). The interviewer has evidence about two of the themes (e.g., CCTV footage of the suspect meeting the accomplice) but not about the third theme (In the current study, the two phases for which the interviewer had evidence for are referred to as Phase 1 and Phase 2, whereas the phase for which the interviewer lacked evidence is referred to as the critical phase or Phase 3). In the SUE-Confrontation tactic, the interviewer first focuses on the two phases of the crime for which s/he has evidence (i.e., Phase 1 and 2). By interviewing in line with some of the most basic components of the SUE-technique (i.e., asking open-ended questions before disclosing the evidence) the interviewer should obtain statement-evidence inconsistencies—because guilty suspects typically use withholding strategies. In the next instance, the interviewer confronts the suspect with the inconsistencies to affect his or her perception of the evidence ("They seem to have more information than I first thought"). In turn, the change of perception is expected to result in a shift in the suspect's counterinterrogation strategy, from a withholding to a more forthcoming strategy ("My withholding strategy is not working; I need to be more forthcoming in order to avoid being inconsistent with the evidence"). Finally, the interviewer turns to the critical phase (for which s/he has no evidence). Our assumption is that the suspect's more forthcoming strategy will result in more admissions about the critical phase.

The present study differs from past research in two important ways. First, we aimed to affect the suspects' perception of the evidence *during* the interview, rather than before the interview (e.g., Luke, Dawson, et al., 2014; Luke, Hartwig, et al., 2014; where suspects were either warned before the interview that there might be evidence against them or were informed about the SUE-technique, that the interviewer would aim to generate inconsistencies before revealing the evidence). That is, the interviewer aimed to elicit statement-evidence inconsistencies and then used these to shift the suspects' verbal strategies from less to more forthcoming. To our knowledge, no previous study has attempted to utilize cues to deceit (e.g., statement-evidence inconsistencies) to elicit admissions during an interview.

Second, we limited the scope of the present study to eliciting admissions from guilty suspects only. The rationale behind this is the consistent findings that innocent suspects are typically forthcoming with critical information and that they are consistent with the evidence (Hartwig et al., 2014) regardless of the interviewer's tactic (e.g., Luke, Hartwig, et al., 2014). For example, in a recent study, guilty and innocent suspects (who had performed similar tasks) were interviewed with one of three interview techniques: SUE-Confrontation, Early Disclosure of Evidence, and Minimal

Disclosure of Evidence (Tekin et al., 2014). Innocent suspects were significantly more forthcoming than guilty suspects when asked about the critical phase for which the interviewer lacked evidence. In fact as many as 59 of 60 innocent suspects disclosed all pieces of critical admissions regardless of the interview condition. Hence, the present study focused on the effectiveness of different interview tactics in eliciting admissions from guilty suspects. Unless stated otherwise, hereafter the term suspect refers only to guilty suspects.

It is appropriate to compare the SUE-Confrontation technique to commonly used interview methods which do not use the evidence in a strategic manner. Hence, we selected two relevant control techniques. The first control technique is the Early Disclosure of Evidence technique, often used in (U.S.) police interviews, where the interviewer presents the evidence to the suspect at the outset of the interview (e.g., Leo, 1996). When confronted with the evidence at the outset of the interview, guilty suspects tend to be consistent with the presented evidence (e.g., Hartwig et al., 2005). We have no reason to believe that these suspects will then be motivated to provide incriminating information over and above what has already been presented by the interviewer. An alternative interview method would be to pose questions about the critical phase (the phase of the crime for which the interviewer lacks evidence) to obtain information about this phase while ignoring the phases for which evidence is already available. In such an interview (hereafter referred to as the No Disclosure of Evidence interview) suspects are expected to provide little incriminating information (Hartwig et al., 2007; Strömwall et al., 2006).

In sum, we predicted that the SUE-Confrontation condition would generate more statement-evidence inconsistencies than the Early Disclosure interview (Hypothesis 1a). Suspects in the SUE-Confrontation condition were expected to be more consistent with the evidence after the confrontation in Phase 1 since they would realize that their withholding strategy does not pay off. Thus, we predicted that suspects in the SUE-Confrontation condition (vs. suspects in the Early Disclosure condition) would be more inconsistent with the evidence in Phase 1; however there would be no such difference between conditions in Phase 2 (Hypothesis 1b). Furthermore, we predicted that suspects in the SUE-Confrontation condition would provide more admissions compared to suspects in the other two interview conditions (Hypothesis 2). Finally, we expected that suspects in the SUE-Confrontation condition (vs. the two control conditions) would perceive the interviewer to have had more information about the critical phase prior to being asked about this phase in the interview (Hypothesis 3). In addition, we explored the changes in suspects' counterinterrogation strategies.

Method

Participants and Design

A total of 90 participants (59 women and 31 men) were recruited through advertisements on several locations in Gothenburg, Sweden. The advertisements asked for volunteers to take part in various studies at the Department of Psychology. Their age varied between 19 and 69 years ($M = 21.51$ years, $SD = 7.65$) and 81% were students. On arriving at the laboratory, they were randomly assigned to one of the three interview conditions. Thirty participants were allocated to each condition. All participants signed an informed consent form. After the experiment, they were fully debriefed and given a movie ticket worth approximately $17. Participation required about one hour per participant.

We employed a between-subjects design. The independent variable was the interview style: SUE-Confrontation, Early Disclosure, and No Disclosure. The dependent variables were objective analyses of suspects' verbal behavior (statement-evidence inconsistencies and admissions) and suspects' subjective ratings of their perceptions of the evidence.

Procedure

The mock crime. Participants were instructed to imagine themselves as a dedicated member of an activist group. They were to undertake a secret mission as part of a larger operation which was to sabotage a company infamous for harmful animal testing. The mission consisted of three phases, each with a different theme. All tasks were performed individually at the Department of Psychology, and participants kept the written instructions while performing the tasks to avoid the heavy load of memorizing them. Additionally, they were walked through all the location details and were provided with floor plans along with the instructions.

Phase 1. In the first phase, participants received a key from a female accomplice (one of the experimenters) for entering an office later on. (a) They left the Department for a short while through the back door. (b) They waited outside for the accomplice and (c) received an electronic key. (d) After a brief dialogue (in which the accomplice asked if the participants knew how to use the key), they went back into the building.

Phase 2. In the second phase, participants copied a file from a laptop. (a) They went to the top floor (the fifth floor) of the Department. (b) They entered an office with the key received in Phase 1. (c) They found a laptop with a file named 'The Codes' on the desktop. This file contained scripts that were to be used in the larger operation. (d) They logged into their private e-mail accounts and (e) sent this file to another accomplice.

Phase 3. In the final phase, participants collected several documents containing important information about the sabotage. (a) They went down to the second floor of the Department. (b) They went to a bulletin board, where they located and memorized a distinctive sign on a green sheet of paper which was posted by the activist group. (c) Then they entered the library where (d) they took an envelope from a cupboard. (e) After leaving the library they walked through a corridor with small lecture rooms. (f) They went into one of those lecture rooms which had the same green sign on its door as on the bulletin board. From this room, they collected a box of documents. (g) They went down two floors to the basement to complete the last part of their mission. (h) In the basement, they put the envelope and the key inside the box, and placed this package under a sofa for an accomplice to pick up later. Once the mission was completed they returned to the lab.

The evidence. The actions described above generated evidence that cast suspicion on the participants but did not conclusively indicate guilt of involvement in a criminal activity. Phase 1 and Phase 2 generated three pieces of evidence each. The evidence for Phase 1 included (a) video camera surveillance footage from the back entrance showing the participant leaving the building from the back door and entering through the same door after a short while, and an eyewitness statement indicating that (b) the

participant had talked to a woman outside, and (c) had received an object from that woman. The evidence for Phase 2 included (a) an eyewitness statement indicating that the participant had been seen on the top floor and (b) a report from the computer technician showing that the participant had logged in to his or her e-mail account, which (c) also indicated that the participant had entered a room on that floor. The interviewers had access to the evidence pertaining to Phase 1 and 2. Importantly, the interviewer did not possess any evidence about Phase 3 (i.e., the critical phase). It should be noted that the ground truth was known to the experimenter, providing the possibility to code the data with respect to statement-evidence inconsistencies and the level of admissions. The ground truth was established by the accomplice for Phase 1. The accomplice confirmed that each participant waited outside the Department, talked to her, and went back in using the same door after receiving the key. In Phase 2, the e-mail account was managed by the experimenter to ensure that all participants sent the e-mail. It was necessary for participants to enter the office to be able to e-mail the file. Finally, after all tasks were performed, the experimenter went down to the basement to ensure that every document was collected and placed under the sofa. This was to confirm that it was a deliberate choice later in the interview to admit to or to conceal the activities performed in Phase 3.

The interviews. Once participants returned to the lab, they were given new instructions. They were informed that a suspicious package had been found and that several break-ins and thefts at the Department had been reported. Therefore, an investigative team interviewed everybody who had been in the building during that day. Instructions stated that the participants' goal was to convince the interviewer of their innocence and deny involvement in any criminal act. They were also instructed not to mention taking part in a research study. To increase their motivation, they were told that if they did not give a credible impression they would remain a suspect and be interviewed again. However, if they did give a credible impression they would not be interviewed a second time, and additionally, their names would be entered in a raffle to win five extra movie tickets. In fact, all suspects were interviewed only once and all names were entered in the raffle. After reading the preinterview instructions, participants were taken to an interview room and given 10 minutes to prepare.

The interviews were conducted by two trained research assistants (one female, one male) who were informed about the case (i.e., the pieces of evidence and the lack of information about suspect's activities after s/he left the top floor). They were blind to suspects' veracity and to the hypotheses. Each interviewer conducted approximately half of the interviews in each condition. All interviews started with the interviewer introducing him/herself, and informing the suspects that they were under suspicion of several criminal activities. All interviews were audiotaped and transcribed verbatim.

SUE-Confrontation interview. In this interview, the protocol was divided into three phases, with each corresponding to the three phases of the mock crime in chronological order. The structure of the interview for Phase 1 and 2 were identical: (a) a specific question about suspects' whereabouts (e.g., "Have you been out at the back of the Department today?"); (b) an invitation for a free narrative (e.g., "Can you tell me what you did there?"); and (c) disclosure of the evidence. As a general rule the interviewer posed follow-up questions to see whether the suspects had anything else to add to their responses (e.g., "Is there anything else you can tell me about what you did at the back of the building?"). The disclosure of the evidence was dependent on suspects' denial or admission. If the suspects denied being at a certain place (e.g., "No, I was not at the back of the building"), the interviewer confronted them with the three pieces of evidence pertaining to that phase and emphasized the seriousness of withholding information ("It is obvious that you are withholding information from me. This is serious and we will return to this later"). If the suspects admitted having been at a certain place, the interviewer then asked for a narrative about their activities. When the suspects' statement fit the evidence, the interviewer confirmed this to them (e.g., "You say that you went out through the back door and we have video footage indicating that you did so. Thus, what you say fits the evidence we have"). The interviewer confronted them with each piece they omitted or contradicted and emphasized the seriousness of withholding information. They were not given the opportunity to change or to explain the inconsistencies. Lastly, the interviewer posed an open-ended question about Phase 3 ("Can you tell me what you did after you left the top floor, but before you were brought to the interview?"). If the suspect volunteered being on the second floor, in the library, in the corridor, or in the basement, the interviewer asked a general question about their activities there (e.g., "You mentioned being in the basement. Can you tell me in detail what you did there?"). Finally, the interview was closed by the interviewer thanking the suspects for their cooperation. Importantly, the procedure for Phase 3 was identical across all three interview conditions. The mean duration of the SUE-Confrontation interview was 6.85 minutes (SD = 3.36).

Early disclosure interview. The Early Disclosure interview differed from the SUE-Confrontation interview with respect to the timing of the evidence disclosure. Following the introduction, the interviewer disclosed all six pieces of evidence. The interviewer subsequently posed questions to obtain a free narrative about the suspects' activities outside (Phase 1) and on the top floor (Phase 2). As a general rule the interviewer posed follow-up questions to see if the suspects had anything else to add to their responses. The questioning procedure for Phase 3 was identical to the SUE-Confrontation interview. The mean duration of the Early Disclosure interview was 5.64 minutes (SD = 1.70).

No disclosure interview. For this condition, the interviewer did not reveal any of the six pieces of evidence and only posed questions about Phase 3. This means that the suspects in this condition responded to fewer questions in total compared to the suspects in the other interview conditions. The interviewer informed the suspects that there was information indicating they had been on the top floor. This was intended to limit their responses to their activities in Phase 3. The remaining questions were identical to the questioning procedure for Phase 3 in the SUE-Confrontation and the Early Disclosure interviews. The mean duration of the No Disclosure interview was 2.98 minutes (SD = 2.04).

Postinterview questionnaire. Following the interview, participants were informed that the role-playing part of the experiment was over, and they were to fill out a postinterview questionnaire in a truthful manner. First, participants reported their age, sex, and occupation. Following this they reported (a) how motivated they were to perform their tasks and (b) how motivated they were to convince the interviewer of their innocence (on 7-point scales; 1 = *not at all motivated*, 7 = *very motivated*). Finally, they

assessed how much information they believed the interviewer held concerning their activities in Phase 3. In doing so, they were first reminded of the third phase of their mission and the question they received from the interviewer regarding this phase. They were instructed to think back to the interview and rate the amount of information they thought the interviewer had regarding their activities in this phase before being asked about it (1 = *the interviewer knew nothing*, and 7 = *the interviewer knew everything*).

Codings. To measure *statement-evidence inconsistency*, we analyzed the suspects' statements with regard to the number of inconsistencies in Phases 1 and 2. As mentioned, the interviewer held six pieces of evidence for Phase 1 and 2, three pieces for each phase. Thus, the number of statement-evidence inconsistencies could vary between 0 and 3 for each phase, where 3 indicated that the suspect was inconsistent with all pieces of evidence pertaining to that particular phase. The total number of statement-evidence inconsistencies could vary between 0 and 6, where 6 indicated that the suspect was inconsistent with all pieces of evidence. Both contradictions (statements that contradicted the evidence) and omissions (statements that omitted the evidence) were counted as inconsistencies.

To measure *admissions*, we analyzed the suspects' statements for the critical phase only. The critical admissions pertained to (a) the second floor, (b) the bulletin board, (c) the library, (d) the cupboard in the library, (e) the second floor corridor, (f) the small lecture room on the second floor corridor, (g) the basement, and (h) the sofa in the basement. Each admission was valued as 1, hence, the total admission score for a suspect ranged from 0–8. However, some admissions logically implied other admissions. For example, the Department has only one library and one common sofa. Therefore, admitting to have been in the library implied having been on the second floor. Similarly, mentioning the sofa implied having been in the basement. These details (i.e., the library and the sofa) were counted as two admissions even if the location was not made explicit by the suspect. If the location of the suspect's activity was ambiguous, the interviewer asked him/her to clarify (e.g., "You mentioned a bulletin board. Where was this bulletin board?").

Interrater reliability. A random 30% of the transcripts were independently rated by two coders with respect to admissions and the number of statement-evidence inconsistencies. Intraclass correlations (ICC) were calculated, showing an excellent agreement of .99, 95% CI [0.995, 0.999] for admissions scores, and .98, 95% CI [0.97, 0.99] for the number of statement-evidence inconsistencies. The disagreements were settled in a discussion between the coders. One of the coders coded the remaining transcripts.

Results

Overview

In the Results section, we first present some preliminary analyses, ensuring that the samples were comparable. For all hypotheses-testing analyses that follow next, we use Pearson's correlation coefficient, r, as effect size measure. The guidelines for what constitutes a large or small effect are as follows: .10 = small, .30 = medium, and .50 = large (Cohen, 1992). At the end of the section, we show some exploratory analyses.

Preliminary Analyses

The suspects in the three conditions did not differ with respect to their motivation to perform the tasks, $F(2, 87) = 3.02$, $p = .054$, $r = .25$, 95% CI [.05, .44][1] or their motivation to convince the interviewer of their innocence, $F(2, 87) = 0.37$, $p = .69$, $r = .09$, 95% CI [−.12, .29]. The mean scores were well above the midpoint of the scales ($M = 5.98$, $SD = 1.06$ and $M = 6.03$, $SD = 1.19$, respectively). We further tested for interviewer effects, but found no statistical indication of any interviewer eliciting different outcomes than other interviewers. This was tested with Interviewer × Condition interactions for each dependent variable, all $ps > .28$.

Hypothesis-Testing Analyses

Statement-evidence inconsistency. A mixed-design ANOVA, with statement-evidence inconsistency score at Phase 1 and Phase 2 as the within-subjects factor and interview condition (SUE-Confrontation vs. Early Disclosure interviews) as the between-subjects factor was conducted. In support of Hypothesis 1a, there was a significant main effect of interview condition, $F(1, 58) = 49.74$, $p < .001$, $r = .68$, 95% CI [.52, .79], and suspects in the SUE-Confrontation condition showed higher inconsistency scores than suspects in the Early Disclosure condition. See Table 1 for descriptive statistics. The main effect of inconsistency scores (across Phase 1 and 2) was not significant, $F(1, 58) = 0.10$, $p = .75$, $r = .04$, 95% CI [−.22, .29]. Importantly, the interaction effect was significant, $F(1, 58) = 6.57$, $p = .013$, $r = .32$, 95% CI [.07, .53]. Simple effects tests at each level of Phase showed that suspects in the SUE-Confrontation condition produced more inconsistencies than the Early Disclosure condition at Phase 1, $F(1, 58) = 61.55$, $p < .001$, $r = .72$, 95% CI [.56, .82], and that this difference decreased for Phase 2, but was still significant, $F(1, 58) = 23.22$, $p < .001$, $r = .53$, 95% CI [.32, .69] (see Figure 1). Hence, Hypothesis 1b was partially supported.

Admissions. We predicted that the suspects in the SUE-Confrontation condition (vs. the control conditions combined) would provide more admissions about the critical phase. A one-way ANOVA revealed a significant effect of interview condition on the level of admissions, $F(2, 87) = 4.21$, $p = .018$, $r = .29$, 95% CI [.09, .47]. Planned contrasts showed that the SUE-Confrontation condition resulted in more admissions compared with the Early Disclosure and the No Disclosure conditions combined, $t(87) = 2.69$, $p = .008$, $r = .28$, 95% CI [.08, .46]. Thus, Hypothesis 2 was supported. There were no difference between the two control conditions, $t(58) = 1.79$, $p = .079$, $r = .23$, 95% CI [−.03, .46]. See Table 1 for descriptive statistics.

Suspects' perception of the evidence. In the postinterview questionnaire, the participants were asked to think back to the interview and rate how much information they believed the interviewer to have had about the critical phase right before the inter-

[1] Because the difference bordered on significance and the 95% CI of the corresponding r did not include zero, we performed post hoc comparisons using the Tukey test. There were no significant differences between the conditions (SUE-Confrontation, $M = 6.13$, $SD = 1.07$; Early Disclosure, $M = 6.20$, $SD = 0.76$; No Disclosure, $M = 5.60$, $SD = 1.22$). Furthermore, we reran all tests with motivation to perform the tasks as a covariate. The results did not differ from the ANOVAs reported.

Table 1
Descriptive Statistics for Dependent Variables Broken Down by Condition

Condition	Phase 1 incon. score[a] *M* (*SD*)	Phase 2 incon. score[a] *M* (*SD*)	Total incon. score[b] *M* (*SD*)	Admission score[c] *M* (*SD*)	Perception of the evidence[d] *M* (*SD*)
SUE-Confrontation	1.97 (.89)	1.67 (.88)	3.63 (1.61)	3.63 (2.33)	4.50 (1.83)
Early Disclosure	.30 (.75)	.53 (.94)	.77 (.41)	2.63 (1.99)	3.87 (1.48)
No Disclosure	—	—	—	2.03 (2.14)	3.37 (1.54)

Note. incon. = inconsistency.
[a] The scores range from 0 (*totally consistent*) to 3 (*totally inconsistent*). [b] The scores range from 0 (*totally consistent*) to 6 (*totally inconsistent*). [c] The scores range from 0 (*no admission disclosed*) to 8 (*all admissions disclosed*). [d] The scale ranges from 1 (*interviewer knew nothing*) to 7 (*interviewer knew everything*).

viewer posed questions about this particular phase. A one-way ANOVA showed that the suspects' perception of the evidence differed across interview conditions, $F(2, 87) = 3.66$, $p = .03$, $r = .28$, 95% CI [.08, .46]. We expected SUE-confrontation to lead to higher ratings, and found support for the hypothesis since a planned contrasts revealed that the suspects in the SUE-Confrontation condition perceived the interviewer to have held more information about the critical phase than the suspects interviewed with the Early Disclosure and the Control interviews, $t(87) = 2.43$, $p = .017$, $r = .25$, 95% CI [.04, .43]. No difference was found between the control conditions, $t(58) = 1.47$, $p = .146$, $r = .19$, 95% CI [−.07, .42]. See Table 1 for descriptive statistics.

Exploratory Analyses

To trace the shift in the counterinterrogation strategies for the SUE-Confrontation and the Early Disclosure conditions,[2] we examined the suspects' strategies for each phase of the interview based on the number of inconsistencies (for Phase 1 and 2) and the level of admissions (for Phase 3). Suspects with at least one statement-evidence inconsistency were regarded as withholding in Phase 1. They were also considered as withholding if the number of inconsistencies in Phase 2 were greater than or equal to those in Phase 1. Finally, in Phase 3, suspects were categorized as withholding if they received an admission score less than or equal to 4 (i.e., if they scored below the midpoint of the admission score scale). In the SUE-Confrontation condition, as many as 90% (n = 27) of the suspects used a withholding strategy at the onset of the interview compared to only 16% (n = 5) of the suspects in the Early Disclosure condition. A number of suspects in the Sue-Confrontation condition (n = 9, 30%) then switched to a more forthcoming strategy either after being confronted with inconsistencies in Phase 1 (n = 5) or in Phase 2 (n = 4) of the interview. Of note is that 41% (n = 10) used a withholding strategy from the beginning to the end of the interview. The pattern was in the reverse direction for the Early Disclosure condition. The suspects (n = 22, 88%) switched from a forthcoming strategy to a withholding strategy, either after Phase 1 (n = 6) or Phase 2 (n = 16).

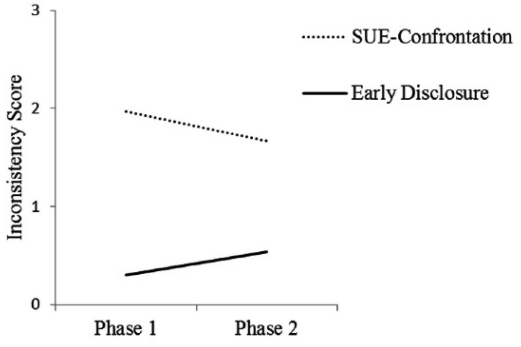

Figure 1. Mean inconsistency scores for Phase 1 and Phase 2 for the SUE-Confrontation and Early Disclosure interview conditions.

Finally, in Phase 3, on a group level the suspects in the SUE-Confrontation condition demonstrated a bimodal trend with respect to the admissions for the critical phase. That is, almost half of the suspects in this condition were forthcoming (n = 12), whereas the rest were withholding. However, only a minority of the suspects in the Early Condition (n = 4) were forthcoming in Phase 3. Figure 2 illustrates the changes in the suspects' strategies throughout the phases in both conditions.

Discussion

In the present study, we tested a novel tactical approach to elicit admissions from guilty suspects. As expected, the SUE-Confrontation tactic generated more statement-evidence inconsistencies than the Early Disclosure interview. As predicted, compared with suspects in the Early Disclosure and the No Disclosure conditions, suspects in the SUE-Confrontation condition (a) were more forthcoming in the critical phase of the interview and (b) perceived the interviewer to have had more information about the critical phase (prior to being asked about this phase).

At the core of the SUE-Confrontation tactic is the relation between the suspects' perception of the evidence and their counterinterrogation strategies. Our aim was to influence the suspects' perception of the evidence so that they would believe that the interviewer held more information on the critical phase than they in fact did. To achieve this, the interviewer used the available evidence in a strategic manner to generate statement-evidence inconsistencies for Phase 1 and 2, before confronting the suspects with these inconsistencies. In line with previous research, we found that the SUE-Confrontation tactic resulted in more incon-

[2] It is important to note that the No Disclosure condition did not produce statement-evidence inconsistency scores in Phase 1 and 2 because the interviewer posed questions only about Phase 3.

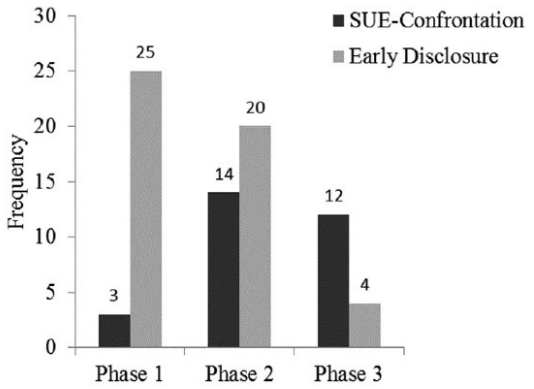

Figure 2. The forthcomingness pattern of suspects throughout the phases in the SUE-Confrontation and Early Disclosure conditions.

sistencies than the other interview conditions (Hartwig et al., 2005). Furthermore, the suspects in the SUE-Confrontation condition perceived the interviewer to have had significantly more information about the critical phase prior to being asked about this phase compared with the No Disclosure condition. In sum, by using the SUE-Confrontation tactic we achieved three goals: the interviewer (a) elicited cues to deceit (statement-evidence inconsistencies), (b) used these cues to affect the suspects' perception of the evidence, and (c) elicited admissions in the critical phase.

These findings can be interpreted through the lens of a social–cognitive framework, namely the theory of self-regulation (e.g., Carver & Scheier, 2012). This framework provides an understanding on how individuals regulate their behavior to reach a goal or to avoid an undesired outcome. The process consists of forming a hypothesis based on external input (i.e., information about the situation) and deciding on an appropriate strategy. The strategy is then maintained (no behavioral change) or revised (behavioral change), depending on its suitability for goal attainment (MacKenzie, Mezo, & Francis, 2012). In the context of investigative interviewing, guilty suspects regulate their behavior toward the goal of convincing the interviewer of their innocence (Granhag & Hartwig, 2008; Granhag, Hartwig, Mac Giolla, & Clemens, 2015). However, if the strategy used does not promote the desired outcome, they will be motivated to revise the process and choose a new strategy to attain their goal. The SUE-Confrontation interview aimed to activate such a revision process by providing feedback on how well their strategy was working toward the goal. Put differently, the confrontation informed the suspects that the hypothesis formed initially was not correct, and that their withholding strategy was not sufficient to reach their goal. In line with this model and with the empirical findings presented by Luke, Dawson, et al. (2014) and Luke, Hartwig, et al. (2014), the suspects in the SUE-Confrontation condition were more likely to adjust their counterinterrogation strategies, from a less to a more forthcoming strategy. We argue, from the perspective of self-regulation theory, that the suspects realized the limitations of their initial strategy, and perceived contradicting the possible evidence as a threat to their credibility. Therefore, in an attempt to avert this threat, they switched to a different and more goal-congruent strategy, by avoiding further inconsistencies by volunteering more information (admissions).

It is important to note that the SUE-confrontation interview generated more inconsistencies in Phase 1 than the Early Disclosure condition; however, the difference between conditions with respect to the statement–evidence inconsistencies remained significant in Phase 2. A reasonable explanation for this is that some suspects may have realized that the interviewer had more information than expected already after the confrontation in Phase 1, and thus adapted a more goal-congruent strategy in Phase 2. Other suspects, however, may not have assessed the confrontations as a threat to their credibility and proceeded with their withholding strategy in Phase 2.

A considerable amount of suspects in the SUE-Confrontation and the Early Disclosure conditions changed their initial strategies. As expected, virtually all of the suspects in the SUE-Confrontation condition began the interview using withholding strategies (90%). Subsequently, 30% of the withholding suspects switched to a more forthcoming strategy (either in the second or third phase of the interview). In the Early Disclosure condition, however, the suspects were forthcoming at the outset of the interview (84%) and then a majority of them switched to a more withholding strategy (88%). This is consistent with previous studies demonstrating that suspects tend to provide a story which is consistent with the evidence when they are aware of the interviewer's knowledge, and that they avoid mentioning incriminating information if it is not presented to them (e.g., Hartwig et al., 2005).

Interestingly, a rather large group of suspects in the SUE-Confrontation condition (41%) held on to their withholding strategies throughout the interview. As a result, the suspects in the SUE-Confrontation condition displayed a bimodal pattern in their choice of counterinterrogation strategies for the critical phase. This is in line with the findings of Luke, Dawson, et al. (2014), where approximately half of the suspects adopted forthcoming strategies and half adopted withholding strategies. Although it is not clear why some suspects were withholding from the beginning to the end, we offer two possible explanations. First, the suspects may have thought that concealing critical information was a more effective way to appear as innocent compared with increasing statement-evidence consistency by switching to a more forthcoming strategy. Research shows that experienced suspects (i.e., suspects who have been previously interviewed by the police) do not give away information willingly because they believe it is the interrogators' task to prove their guilt (Granhag et al., 2009). Second, the suspects may have believed that the interviewer was already convinced of their guilt based on the early inconsistencies. Given that they could not account for the inconsistencies, it may be argued that they thought that an attempt to regain their credibility in the critical phase was futile. We encourage future research to address this issue by giving the suspects the opportunity to explain inconsistencies as they are confronted with them. Another avenue for future research is to address questions that will deepen our understanding of the suspects' decision making throughout an interview. Here it should be noted that the current study makes a contribution in this respect as the findings support the causal model underpinning the SUE technique outlined by Granhag and Hartwig (2015); a model which describes suspects' psychological mechanisms at play during an interview. That is, that suspects'

perception of the evidence (which is open to influence) moderates their counterinterrogation strategies and influences their decisions to conceal or reveal information during an interview (Granhag & Hartwig, 2015). We believe that future research should examine the shifts in suspects' counterinterrogation strategies thoroughly so as to develop and improve tactics aiming to elicit admissions from withholding suspects.

Observations of real-life police interviews suggest that suspects rarely change their initial decision to reveal or conceal information during an interview (Alison et al., 2013; Deslauriers-Varin, Beauregard, & Wong, 2011; Soukara, Bull, Vrij, Turner, & Cherryman, 2009). This may be attributable to the use of techniques in which the interviewers do not play an active role in changing suspects' decisions during the interview. In this study we demonstrated that interviewers can alter suspects' strategies through a strategic evidence disclosure tactic. However, more research is needed to understand why some suspects change their initial strategies while others do not.

It is important to note that the means for the admission scores in the Early Disclosure condition and the SUE-Confrontation condition were rather similar. The bimodal pattern in the SUE-Confrontation condition accounts for this finding. Speculatively, it may also be caused by the source of the evidence. Suspects may be more sensitive to technical evidence, such as security camera footage. First, this type of evidence is more conclusive. Second, if interviewers have access to one piece of technical evidence, suspects may believe that the interviewers have access to more (e.g., there may be more surveillance cameras in different locations which could demonstrate the suspects' whereabouts). Therefore, the suspects in the Early Disclosure condition may have become wary to the possibility of more surveillance footage and attempted to be consistent with their whereabouts in the building.

Practical Implications, Limitations, and an Ethical Note

We believe that our findings have important practical implications. First, we mirrored a situation that is frequent in real investigations: there is some background information about a suspect's whereabouts, but less (or no) information about the critical phase of the crime. Second, we provided empirical support for the prediction that the SUE-Confrontation tactic can be used to elicit admissions. Third, we provided evidence showing that with the SUE framework, it is possible to accomplish multiple goals in an interview. That is, it led to cues to deceit and to admissions, both of which may be outcomes of great value to a prosecutor when building a case regarding a suspect's possible involvement in a crime.

There are some limitations of the study that merit attention. First, the majority of our participants were students, who may not be representative of the typical suspect. Similarly, it is impossible to recreate the high stakes of a real-life suspect interview in the laboratory. However, because suspects in real-life situations will presumably be more motivated to employ counterinterrogation strategies such as avoiding statement-evidence inconsistencies, it is possible that the SUE-Confrontation tactic may be even more effective in real-life settings than in lab settings. That is, the laboratory setting may in this case underestimate the effects. Of course, the effect of motivation on suspects' counterinterrogation strategies is an empirical question, and we encourage future research to examine it. Second, the only feasible way to tap the suspects' perceptions of the interviewer's knowledge about the critical phase was to ask about this *after* the full interview (in the postinterview questionnaire). That is, suspects were faced with the task of trying to remember how much information they estimated the interviewer to have held about the critical phase before they were asked about it. Such retrospective self-reports may be unreliable for several reasons (e.g., suspects' responses may have been influenced by the questions they were asked during the critical phase). On the other hand, such limitations should apply to all conditions and should therefore not account for the differences found between the SUE-Confrontation and the two other conditions. Third, suspects in the SUE-Confrontation condition were posed more questions than in the other conditions. To examine the effects of different interviewing techniques while keeping the number of questions identical is difficult (and often not meaningful). Additionally, as an information gathering interview, the SUE-Confrontation tactic inherently asks more questions than many other interviews, to elicit statement-evidence inconsistencies. Importantly, suspects in the SUE-confrontation condition were only asked more questions for phases which the interviewer already possessed information. The procedure for investigating the critical phase (Phase 3) was identical across all conditions.

Finally, a brief ethical note is warranted. Not every approach that aims to influence the suspects' perception of the evidence is ethically defensible. For example, some interrogation manuals suggest the use of deceptive techniques to make the suspect believe that there is a substantial amount of evidence against them (e.g., by placing a thick case-file on the table or by explicitly lying about the amount of evidence, Inbau et al., 2001). We want to stress that we distance ourselves entirely from such approaches. The approach we suggest does not entail deception. Instead, it is based on an understanding of how suspects form hypotheses about the evidence against them, and using this understanding strategically to influence their counterinterrogation strategies.

Conclusions

The SUE framework provides empirically supported tactics with respect to (a) how to ask questions in relation to the evidence (Hartwig et al., 2011), (b) when to disclose the evidence (Hartwig et al., 2005), and (c) in what manner to disclose the evidence (Granhag, Strömwall, Willén, & Hartwig, 2013). In this study we further advanced the SUE framework. We outlined the reasoning behind the SUE-Confrontation tactic and provided results showing that this tactic increases the level of admissions from guilty suspects. In essence, if investigators strategically use what they already have (evidence about some phases of a crime), they can increase their chances of obtaining what they need (admissions about a phase where they lack information).

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How to make perpetrators in denial disclose more information about their crimes

Serra Tekin[a], Pär Anders Granhag[a,b,c], Leif A. Strömwall[a] and Aldert Vrij[d]

[a]Department of Psychology, University of Gothenburg, Gothenburg, Sweden; [b]Norwegian Police University College, Oslo, Norway; [c]Department of Psychology, University of Oslo, Oslo, Norway; [d]Department of Psychology, University of Portsmouth, Portsmouth, UK

ABSTRACT

This study examined interview techniques for eliciting admissions from perpetrators of a crime. Two techniques derived from the Strategic Use of Evidence (SUE) framework (SUE-Confrontation and SUE-Confrontation/Explain) were compared to an Early Disclosure of Evidence technique. Participants ($N = 75$) performed a mock criminal task divided into three phases before being interviewed. In the SUE conditions, statement-evidence inconsistencies were obtained by strategic interviewing for Phases 1 and 2. For both SUE conditions, the interviewer confronted the suspects with these inconsistencies, emphasising that withholding information undermined their credibility. For the SUE-Confrontation/Explain condition, the suspects were asked to explain each inconsistency. To restore their credibility, the suspects in the SUE conditions were expected to become more forthcoming in Phase 3 (the phase which lacked information). The suspects in the SUE-Confrontation condition (vs. the suspects in the Early Disclosure condition) disclosed more admissions about Phase 3. As predicted, the suspects in the SUE conditions perceived the interviewer to have had comparatively more information about Phase 3. The suspects in the SUE-Confrontation/Explain condition strived to maintain their credibility either by fitting their story to the evidence or by sticking to the initial story. The study shows that the SUE technique is effective for eliciting admissions.

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The main goal of a suspect interview is to obtain relevant and critical information. There is an increasing interest among psycho-legal researchers to find ways to elicit information from suspects using effective and ethical techniques (e.g. Meissner, Kelly, & Woestehoff, 2015; Tekin et al., 2015; Walsh & Bull, 2015). The research literature shows that humane approaches (e.g. to build rapport), as opposed to oppressive approaches (e.g. to press for information), increase the likelihood of eliciting true confessions (see Meissner et al., 2014) and yield more information (e.g. Evans et al., 2013). However, the literature is scarce with respect to specific techniques that aim to elicit information from suspects.

CONTACT Serra Tekin serra.tekin@psy.gu.se

As a contribution to fill this void we examined an information gathering tactic for cases in which admissions are needed to infer guilt or innocence.

Admission elicitation can best be described as attaining crime-related information that can substantiate a suspect's guilt or innocence (e.g. Perry, 2012; Slough, 1959). For the present study, the term admission refers to information that potentially incriminates the suspect (e.g. admitting being at the crime scene), but does not involve the suspect taking responsibility for the commission of the crime (i.e. a confession). For cases in which a suspect denies the wrongdoing, and where there is little or no evidence, it is necessary to elicit information. This is a challenging task because guilty suspects typically avoid providing incriminating details (e.g. Granhag, Clemens, & Strömwall, 2009; Strömwall & Willen, 2011).

The Strategic Use of Evidence framework

The Strategic Use of Evidence (SUE) framework is based on a set of principles that can be used for several purposes in a suspect interview, for example to detect deception or to elicit admissions (Granhag & Hartwig, 2015). According to this framework, a suspect's perception of the evidence will influence his or her choice of counter-interrogation strategy (i.e. the suspect's attempt to convince the interviewer of his or her innocence; Granhag & Hartwig, 2008), and this strategy in turn will affect what and how much information the suspect will disclose. The perception of the evidence refers to the hypothesis the suspect forms about the interviewer's prior knowledge (Moston & Engelberg, 2011).

Research shows that innocent and guilty suspects differ in their counter-interrogation strategies. Most innocent suspects have nothing to conceal and are therefore typically forthcoming. In contrast, guilty suspects typically refrain from revealing self-incriminating information (Hartwig, Granhag, & Strömwall, 2007; Strömwall, Hartwig, & Granhag, 2006). Importantly, the available evidence can be used strategically in order to magnify these verbal differences. If the interviewer asks for a free recall and exhausts the suspect's possible alternative explanations to the evidence before tactically disclosing the evidence, it is likely that a guilty suspect will provide a statement that is inconsistent with the evidence (e.g. Hartwig, Granhag, Strömwall, & Vrij, 2005). Differently put, if a guilty suspect perceives the interviewer *not* to hold a certain piece of information (e.g. 'He does not seem to know I have been to the Metro Building on Sunday evening'), s/he will then likely adopt a withholding strategy to avoid self-incrimination. Hence, the interviewer will elicit *statement-evidence inconsistencies*. Moreover, after the evidence is disclosed, a guilty suspect may change his or her story to adapt to the evidence (e.g. Granhag, Strömwall, Willén, & Hartwig, 2013). Hence, the interviewer will elicit yet another cue to deceit: *within-statement inconsistencies*.

So far, and as discussed above, the SUE framework has primarily been used to elicit cues to deception and truth, but it can also be used to elicit admissions from withholding suspects (Granhag & Hartwig, 2015). Assume that a guilty suspect perceives the interviewer to hold a certain piece of information (e.g. 'He probably knows that I was in the Metro Building on Sunday evening'), s/he will then consider it fruitless to withhold or deny the information the interviewer already knows. Hence, the suspect will be forthcoming with that particular piece of information. The interviewer will then elicit an admission if s/he did not already possess that information.

In support of this reasoning, research has shown that suspects' perception of the evidence affects the outcome of the interview (e.g. denials or admissions): the more evidence a guilty suspect believes the interviewer to hold, the more forthcoming s/he will be in his or her attempt to avoid statement-evidence inconsistencies (Granhag et al., 2009; Luke, Dawson, Hartwig, & Granhag, 2014; Tekin, Granhag, & Mac Giolla, 2014).

Using the SUE framework to elicit admissions

Consider a crime that is divided into three different phases, and that each phase has a different theme (e.g. meeting an accomplice, stealing a file, and gathering information in preparation for an attack). Furthermore, the interviewer has evidence pertaining to two phases of the crime (evidence that is not necessarily incriminating the suspect, but raises suspicion about the suspect's involvement in the crime), but lacks information about the critical third phase (e.g. the period when the crime was committed). Tekin et al. (2015) studied how to interview a suspect in such a case to elicit admissions about the phase for which the interviewer lacked information (the critical phase). This was the first study that used the SUE framework to elicit admissions. They found that suspects faced with a tactical approach derived from the SUE framework overestimated the amount of information the interviewer held about the critical phase. In addition, these suspects disclosed more admissions pertaining to their activities in the critical phase compared to the suspects in the control conditions (where the evidence was disclosed at the onset of the interview or not disclosed at all).

The interview tactic used in the study by Tekin et al. (2015) was labelled the SUE-Confrontation tactic. The tactic drew on the SUE framework and aimed to alter the suspects' strategies from withholding to forthcoming. In brief, the interviewer first obtained statement-evidence inconsistencies by using the available evidence in a strategic manner. Next, the interviewer *confronted* the suspects with these inconsistencies to affect their perception of the evidence. As predicted, the suspects perceived the interviewer to have had more information about the critical phase (which lacked information) than s/he actually did, and this inflated perception of the evidence resulted in a shift in the suspects' counter-interrogation strategy, from a withholding to a more forthcoming. Finally, when the interviewer turned to the critical phase, the suspects' more forthcoming strategy resulted in admissions about this phase.

The present study

The present study used the principles of the SUE framework as means of eliciting admissions from suspects. We aimed to mirror a situation that occurs rather frequently in real-life. That is, there is evidence pertaining to some phases of a crime (evidence that does not conclusively indicate a suspect's involvement in the crime), but less or no information about a more critical phase of the crime. In the current study, the two phases for which the interviewer had evidence were labelled Phase 1 and Phase 2, and the phase where evidence was lacking was labelled the 'critical phase' or Phase 3.

We advanced previous work on two accounts. First, for the SUE-Confrontation interview used by Tekin and colleagues (2015), after confronting the suspects with their inconsistencies, the interviewer proceeded without providing the suspects the chance to explain their

inconsistencies. However, in real-life situations, an interviewer is likely to challenge a suspect's inconsistencies. Hence, for the present study we introduced a tactic, named the SUE-Confrontation/Explain, for which the interviewer asked for an explanation for each inconsistency obtained. This interview style is more ecologically valid as the suspects were given the opportunity to account for the discrepancy between their statement and the evidence (Walsh & Bull, 2015).

We expected that in the SUE-Confrontation/Explain condition, more suspects would be motivated to become forthcoming, and consequently disclose admissions in Phase 3. The rationale for this was that the suspects (unlike the suspects in the SUE-Confrontation condition) would be able to restore their credibility, which may have been undermined by the statement-evidence inconsistencies, by providing explanations for those inconsistencies. Tekin et al. (2015) reported that almost half of the suspects in the SUE-Confrontation condition withheld information pertaining to the critical phase (while the rest of the suspects volunteered information). These suspects, after being confronted with their inconsistencies resulting from their withholding strategy, might have believed to have been assessed as guilty by the interviewer and that striving to appear innocent was futile. Thus, they remained withholding. The opportunity to explain the inconsistencies was expected to remedy this as the suspects could view this as a way to restore their credibility. In other words, it was expected that in the SUE-Confrontation/Explain condition (compared to the SUE-Confrontation condition) a higher number of suspects would be motivated to maintain their goal to convince the interviewer of their innocence.

Second, the current study advanced previous work by closely examining the shifts in the suspects' counter-interrogation strategies during the course of the interview. That is, we adopted and analysed both objective and subjective measures. Specifically, (a) a 'forthcomingness' score was calculated for each phase of the interview allowing comparisons between phases, and (b) the suspects were asked to report their initial counter-interrogation strategies, as well as if (and if so, how) their strategies changed throughout the interview.

In addition, given the novelty of the SUE-Confrontation tactic introduced by Tekin et al. (2015), it is of importance to try to replicate the positive effects of this tactic. To this end, we compared the SUE-Confrontation and SUE-Confrontation/Explain interviews (SUE interviews) to the Early Disclosure of Evidence interview, which is common police practice in for example the US (e.g. Leo, 1996).

It should be noted that the current study limited its scope to suspects who were guilty of a crime. A number of recent studies demonstrate that innocent suspects are forthcoming with critical information (Hartwig, Granhag, & Luke, 2014) and consistent with the evidence regardless of the interviewer's tactic (e.g. Luke et al., 2014; Tekin et al., 2014). Hence, unless stated otherwise, hereafter the term 'suspect' refers to suspects who committed the criminal act.

Hypotheses

We predicted that strategic interviewing (i.e. the two types of SUE interview) would generate more statement-evidence inconsistencies in Phase 1 and Phase 2 than the Early Disclosure interview (Hypothesis 1). Furthermore, we hypothesised that the suspects interviewed with the two SUE interviews (vs. the Early Disclosure interview) would perceive

the interviewer to possess more information about the critical phase (Phase 3) before being asked about this phase (Hypothesis 2). The evidence disclosure and the confrontations were identical in both SUE interviews, thus we had no reason to expect a difference between the two SUE interviews with respect to their influence on the suspects' perception of the amount of evidence the interviewer held about the critical phase.

Key to our reasoning was that the suspects in the two SUE conditions would be faced with statement-evidence inconsistencies in Phases 1 and 2 (due to having underestimated the interviewer's knowledge), and we argue that this would make them conscious about how much information the interviewer may possess about Phase 3. In other words, they would form a hypothesis about the interviewer's knowledge about Phase 3, and this hypothesis would guide their decision of how much information to provide about this particular phase of the crime. In contrast, the suspects in the Early Disclosure condition were expected to be less conscious about the interviewer's knowledge about Phase 3, and instead continue to await and react upon the interviewer's initiative with respect to the disclosure of evidence. Hence, for the two SUE conditions, we predicted a strong positive correspondence between the suspects' perception of the interviewer's knowledge about Phase 3 and the level of admissions, whereas we expected no such correspondence for the Early Disclosure condition (Hypothesis 3).

Based on the train of thought outlined above, we predicted that the SUE-Confrontation/Explain condition would result in more admissions with respect to Phase 3, compared to the SUE-Confrontation and Early Disclosure conditions. The rationale for this was that we expected more suspects (in the SUE-Confrontation/Explain condition) to be motivated to avoid further inconsistencies in Phase 3, as a result of having had the opportunity to explain their inconsistencies in Phases 1 and 2 (Hypothesis 4a). Furthermore, we predicted that the Early Disclosure condition would result in fewer admissions than both SUE conditions (Hypothesis 4b).

Finally, we predicted that the suspects in the two SUE conditions sooner (after Phase 1) or later (after Phase 2) would switch from a withholding to a more forthcoming counter-interrogation strategy. Conversely, the suspects in the Early Disclosure condition were expected to start off as forthcoming, and then after having accounted for the evidence disclosed to them in Phase 1 and Phase 2, become more withholding in Phase 3 (Hypothesis 5).

Method

Participants and design

Students and staff members ($N = 78$) from various departments at the University of Portsmouth (UK) were recruited through advertisements on several locations on the university premises. Three participants were excluded due to either interviewer error ($n = 1$) or failure to follow instructions ($n = 2$), yielding a final sample of 75 participants (40 female and 35 male; 50 students and 25 staff members). Their age ranged from 18 to 62 years ($M = 27.51$ years, $SD = 10.75$). Upon arriving at the laboratory, participants were randomly assigned to one of the three interview conditions. Twenty-five participants were allocated to each condition. All participants signed an informed consent form. After the experiment, they were fully debriefed and given £5 as compensation.

The study lasted approximately one hour per participant. The study was approved by the Science Faculty Ethics Committee.

A between-subjects design was employed. The independent variable was interview type: SUE-Confrontation/Explain, SUE-Confrontation, and Early Disclosure. The dependent variables were objective analyses of the suspects' verbal behaviour (statement-evidence inconsistencies, admissions, and 'forthcomingness'), and the suspects' perceptions of the evidence.

Procedure

The mock crime

Participants were told that the university officials were testing the security measures on the university premises to see whether they can detect criminal activities. They were instructed to imagine themselves as a dedicated member of a criminal group and to undertake a secret mission as part of a larger operation, which was to prepare an attack on the university premises. The mission consisted of three phases, each with a different theme. All tasks were performed individually on the university premises. Participants were provided with written instructions together with some maps of the locations they were supposed to visit.

Phase 1. In the first phase, participants received a key from an accomplice (one of the experimenters) for entering an office later on: They (1) left the Department building (King Henry Building) for a short while; (2) waited for the accomplice outside behind the building by a signpost; (3) received a key; and (4) after a brief dialogue (in which the accomplice asked if the participant knew what to do next), went back into the building.

Phase 2. In the second phase, participants e-mailed a file from a laptop: They (1) went to the third floor of King Henry Building; (2) entered an office with the key received in Phase 1; and (3) found a laptop with a file named 'The Codes' on the desktop. This file contained scripts that were to be used in the attack. They then (4) logged on to their private e-mail accounts; and (5) e-mailed this file to another accomplice.

Phase 3. In the final phase, participants collected several documents containing important information about the attack: They (1) left the King Henry Building and went to another university building nearby, the Park Building; (2) took the lift; (3) went to the fourth floor (top floor) of the building; (4) located a cupboard behind which there was an envelope left for them; (5) went one floor down to the third floor; (6) collected a box of documents from the shelves situated in the corridor; (7) went all the way down to the basement to complete the last part of their mission, and (8) put the envelope inside the box, and placed this package in the empty space behind the lift for an accomplice to pick up later. Once the mission was complete they returned to the laboratory in King Henry Building.

The evidence. The actions described above generated evidence that cast suspicion on the participants, but did not conclusively indicate guilt of involvement in a criminal activity. Phase 1 and Phase 2 generated three pieces of evidence each. The evidence for Phase 1 included eyewitness statement indicating that the suspect: (1) had been outside behind the King Henry Building; (2) had talked to a man/woman outside (depending on the accomplice's gender); and (3) had received an object from that man/woman. The evidence for Phase 2 included: (1) an eyewitness statement indicating that the

suspect had been on the third floor of King Henry Building; and (2) a report from the computer technician showing that the suspect had logged on to his or her e-mail account, which (3) also indicated that the suspect had entered a room on that same floor.

The interviewer possessed information that a package was found behind the lift in the basement of the Park Building, and that the package contained important information about an attack on the university premises. Moreover, the interviewer had access to the evidence pertaining to Phases 1 and 2. Importantly, the interviewer did not possess any evidence about Phase 3 (i.e. the critical phase). Ground truth was established for each phase to code the data for statement-evidence inconsistencies and admissions. In Phase 1, the accomplice confirmed that each participant stood by the signpost outside behind the building and talked to him or her. In Phase 2, the e-mail account was managed by the experimenter to ensure that all participants had sent the e-mail. It was necessary for participants to enter the office to be able to e-mail the file. Finally, after all tasks were performed, the experimenter went to the Park Building's basement to ensure that every document was collected and placed within the empty space behind the lift. This confirmed that it was a deliberate choice later in the interview to admit to, or conceal, the activities performed in Phase 3.

The interviews

Once participants returned to the laboratory, they received new instructions. They were informed that the university officials had found a suspicious package (without revealing where it was found) and that break-ins and thefts had been reported on campus. Therefore, an investigative team was interviewing people who had been on the premises that day, including the participants. The given instructions stated that the goal for the participants was to convince the interviewer of their innocence. Moreover, they were informed about the importance of concealing facts relating to their criminal activities. They were given 10 minutes to prepare for the interview. To increase participants' motivation, they were informed that they would be awarded £5 only if the interviewer believed them to be innocent. In fact, all participants received £5.

Participants were interviewed individually according to pre-scripted protocols. The interviews were conducted by five interviewers to demonstrate that the findings were not dependent on an individual interviewer. Interviewers 1 and 2, both aged 27, were Ph.D. students at the University of Portsmouth. Interviewer 1 (a male) conducted 21 interviews and Interviewer 2 (a female) conducted 11 interviews. Interviewers 3, 4, and 5 were all female bachelor students at the University of Portsmouth, aged 18, 18, and 19, respectively, and the numbers of interviews they conducted were 11, 15, and 17, respectively. All interviewers received a two-hour training session delivered by the first author. All interviewers conducted all three interview types and were blind to the hypotheses of the study. Interviews started with the interviewer introducing him/herself, and informing the suspects that they were under suspicion of several criminal activities. The interview protocols were divided into three phases, with each phase corresponding to the three phases of the mock crime in chronological order. The interviewer posed questions pertaining to Phases 1 and 2 and then initiated a break informing the suspects that s/he would be back in the room to ask further questions. Five minutes later, the interviewer went back into the room to pose questions pertaining to Phase 3. The suspects were unaware that Phase 3 was critical for the interviewer. The rationale behind this was that the suspects

would likely be withholding if they knew what the interviewer aimed to achieve (i.e. to elicit new information pertaining to Phase 3). All interviews were audiotaped.

SUE-Confrontation/Explain interview. The structure of the interview for Phases 1 and 2 was identical and consisted of six steps for each phase: (1) a specific question about the suspects' whereabouts (e.g. 'Have you been outside behind the King Henry Building today?'); (2) an invitation for a free narrative (only if they replied 'yes' to the previous question; e.g. 'Can you tell me what you did there?'); (3) disclosure of the evidence and confrontation (see below); (4) asking for an explanation for each statement-evidence inconsistency (e.g. 'How do you explain the inconsistency between your statement and the evidence showing that you did talk to a man?'); (5) feedback on the suspects' explanation (see below); and (6) a five-minute break.

The disclosure of the evidence and confrontation (step 3) was dependent on the suspects' denial or admission. If the suspects denied being at a certain place at step 1 (e.g. 'No, I was not outside behind the King Henry Building'), the interviewer confronted them with the three pieces of evidence pertaining to that phase. If the suspects admitted having been at a certain place, the interviewer then asked for a narrative about their activities (step 2) and confronted the suspects with the evidence in relation to what they reported in their free recall (step 3). When the suspects' statement matched the evidence, the interviewer confirmed this (e.g. 'You say that you were out behind the King Henry Building and we have eyewitness evidence showing that you were. Thus, what you say fits the evidence we have'). The interviewer confronted the suspects with each piece of evidence they omitted or contradicted and emphasised the seriousness of withholding information (e.g. 'We have eyewitness evidence indicating that you talked to a man and received something from him whilst you were outside. It is obvious that you are withholding information from me and this is serious'). After the confrontation, the interviewer required an explanation for every statement-evidence inconsistency within the suspects' statements (step 4). When the suspects provided an explanation that matched the evidence (e.g. 'Sorry, I forgot to mention that I talked to a man outside'), the interviewer confirmed this ('OK, what you say now fits the evidence we have'). In contrast, if the statement was still inconsistent with the evidence (e.g. 'You are wrong, I did not talk to a man outside'), the interviewer emphasised the seriousness of the continuing inconsistency ('What you say is still inconsistent with the evidence; this is not good for your credibility') (step 5).

After the five-minute break (step 6), the interviewer posed an open-ended question about Phase 3 ('Can you tell me what you did after you left the third floor of King Henry Building and before you were brought in to the interview?'). If the suspects volunteered being at specific locations (Park Building, Park Building's fourth floor, third floor and/or basement), then the interviewer asked a general question about their activities there (e.g. 'You mentioned being in Park Building's basement. Can you tell me in detail what you did there?'). If the location of the suspects' activity was ambiguous, then the interviewer asked them to clarify (e.g. 'You mentioned a cupboard. Where was this cupboard?').

As a general rule in each interview condition, the interviewer posed follow-up questions to examine whether the suspects had anything else to add to their responses (e.g. 'Is there anything else you can tell me about what you did outside behind the King Henry Building?'). Finally, the interviewer closed the interview by thanking the suspects for their

cooperation. Importantly, the procedure for Phase 3 was identical across all three interview conditions. The mean duration of the SUE-Confrontation/Explain interview was 9.12 minutes ($SD = 3.45$) (the five-minute break excluded).

SUE-Confrontation interview. The SUE-Confrontation interview differed from the SUE-Confrontation/Explain interview with respect to handling statement-evidence inconsistencies. Unlike in the SUE-Confrontation/Explain condition, the interviewer did not require the suspects to explain their inconsistencies. Thus, Phases 1 and 2 of the SUE-Confrontation interview only involved steps 1, 2, 3, and 6 of the SUE-Confrontation/Explain interview. The questioning procedure for Phase 3 was identical to the SUE-Confrontation/Explain interview. The mean duration of the SUE-Confrontation interview was 8.23 minutes ($SD = 3.55$) (the five-minute break excluded).

Early disclosure interview. The Early Disclosure interview differed from the SUE interviews with respect to the timing of evidence disclosure. At the beginning of the interview, the interviewer disclosed all six pieces of evidence. The interviewer subsequently posed questions to obtain a free narrative about the suspects' activities outside behind the King Henry Building (Phase 1) and on the third floor of the same building (Phase 2) (e.g. 'Please tell me in detail what you did when you were outside behind the King Henry Building'). The questioning procedure for Phase 3 was identical to the SUE interviews. The mean duration of the Early Disclosure interview was 6.52 minutes ($SD = 2.73$) (the five-minute break excluded).

Post-interview questionnaire

Following the interview, participants were informed that the role-playing part of the experiment was now over, and that they were to fill out a post-interview questionnaire in a truthful manner. First, participants reported their age, sex, and occupation. Following this, they reported how motivated they were to perform their tasks, and how motivated they were to convince the interviewer of their innocence (both on 7-point scales; 1 = *not at all motivated*, 7 = *very motivated*). Second, they were instructed to think back to the five-minute break (i.e. right before they were asked about Phase 3). They were presented a list of eight critical details pertaining to their activities in Phase 3 (see the Codings subsection below). For each detail, they answered whether they thought the interviewer knew about that particular detail (e.g. 'Did you think the interviewer already knew you had been to the Park building?'). Finally, they answered several questions about their counter-interrogation strategies. The questions were: (1) What was your initial strategy to convince the interviewer of your innocence? (2) Did you change your strategy at any point during the interview? (3) If yes, when did you change your strategy? and (4) What was your new strategy?

Codings

In order to measure *statement-evidence inconsistency*, we analysed the statements with regard to the number of inconsistencies in Phases 1 and 2. As mentioned, the interviewer held six pieces of evidence for Phases 1 and 2, three pieces for each phase. Thus, the number of statement-evidence inconsistencies could vary between 0 and 3 for each phase, where 3 indicated that the suspect was inconsistent with all three pieces of evidence pertaining to that particular phase. Both contradictions (statements that conflicted the evidence) and omissions (statements that left out the evidence) were counted as inconsistencies. A random 30% of the interviews were independently rated by two

coders with respect to the number of statement-evidence inconsistencies for Phases 1 and 2. Intraclass correlation coefficients (ICCs) were calculated, showing excellent agreement across all phases; .88, 95% CI [.71, .95] for Phase 1; .96, 95% CI [.91, .99] for Phase 2. The disagreements were settled in a discussion between the coders. One of the coders subsequently coded the remaining interviews.

As mentioned earlier, in the post-interview questionnaire, the participants were asked – for each of the eight critical details – whether they thought the interviewer possessed that piece of information prior to being asked about Phase 3. The *perception of the evidence* was calculated by counting the number of details the participants perceived the interviewer to possess. Hence, the perception score ranged from 0 to 8 (0 = *the interviewer knew nothing*, and 8 = *the interviewer knew everything*).

To measure *admissions*, we analysed the statements for the critical phase only (i.e. Phase 3). The critical admissions pertained to (1) being inside Park Building; (2) taking the lift; (3) being on the fourth floor; (4) mentioning the cupboard on the fourth floor; (5) being on the third floor; (6) mentioning the shelves on the third floor; (7) being in the basement; and (8) being in the empty space behind the lift in the basement. Each admission was counted as 1. Hence, the total admission score for a suspect ranged from 0 to 8.[1] A random 30% of the interviews were independently rated by two coders with respect to admissions. Excellent agreement was obtained for the admission scores, ICC = .98, 95% CI [.96, .99]. The few disagreements were settled in a discussion between the coders. One of the coders subsequently coded the remaining interviews.

Suspects' level of *'forthcomingness'* was measured by calculating a ratio for their consistency. The aim of this transformation was to have comparable scores in each phase. In doing so, we calculated the ratio of the number of statement-evidence consistencies to the total number of pieces of evidence for Phases 1 and 2 separately. For instance, if a suspect was consistent with one piece of evidence out of three, the forthcomingness score would be .33. Similarly, we calculated the ratio of the number of admissions in the suspects' statements to the total number of possible critical admissions for Phase 3. For instance, if a suspect admitted to four details out of eight, the forthcomingness score would be .50.

Finally, to trace the direction of the shifts in suspects' counter-interrogation strategies, two coders independently coded a random 30% of suspects' self-reported initial and new counter-interrogation strategies as *forthcoming* or *withholding*. Strategies were categorised as forthcoming, for instance, when suspects reported to have stayed close to the truth or admitted to details without revealing criminal intent. The category of withholding strategies consisted of suspects reporting to have denied everything or answered to a bare minimum. Some strategies reported by the suspects were not verbal (e.g. 'I stayed calm'); thus, they were categorised as *other*. Interrater agreement was 88.6% (Cohen's $\kappa = .70$) for the suspects' self-reported strategies. One of the coders categorised the remaining material.

Results

Preliminary analyses

The suspects in the three conditions did not differ in their motivation to perform the mock crime, $F(2, 72) = 1.02$, $p = .36$, $r = .17$, 95% CI [−.06, .38], or in their motivation to convince

the interviewer of their innocence, $F(2, 72) = 3.07$, $p = .053$, $r = .28$, 95% CI [.06, .48]. The mean scores were well above the midpoint of the scales ($M = 6.28$, $SD = 0.86$ and $M = 6.19$, $SD = 0.88$, respectively). We further tested for interviewer effects, but found no statistical indication of any interviewer eliciting different outcomes than the other interviewers. This was tested with Interviewer × Condition interactions for each dependent variable, all p values > .09.

Hypotheses-testing analyses

Statement-evidence inconsistency

We predicted that the two types of SUE interviews would result in more statement-evidence inconsistencies than the Early Disclosure interview. A mixed-design ANOVA was conducted with Interview Condition (two SUE conditions combined vs. Early Disclosure) as the between-subjects factor and Phase as the within-subjects factor. There was a main effect for Interview Condition, $F(1, 73) = 54.30$, $p < .001$, $r = .65$, 95% CI [.50, .76]. As predicted, the SUE conditions resulted in more statement-evidence inconsistencies ($M = 1.71$, $SD = 0.11$) compared to the Early Disclosure condition ($M = 0.30$, $SD = 0.16$). There was no significant main effect of Phase, $F(1, 73) = 1.28$, $p = .26$, $r = .13$, 95% CI [–.10, .35]. Importantly, there was a significant interaction effect between Interview Condition and Phase, $F(1, 73) = 4.72$, $p = .03$, $r = .25$, 95% CI [.02, .45]. Simple effects tests at each phase (Phases 1 and 2) showed that the two SUE conditions combined ($M = 1.90$, $SD = 0.84$) produced more statement-evidence inconsistencies than the Early Disclosure condition ($M = 0.24$, $SD = 0.72$) both at Phase 1, $F(1, 73) = 71.24$, $p < .001$, $r = .70$, 95% CI [.56, .80] and at Phase 2, $F(1, 73) = 22.05$, $p < .001$, $r = .48$, 95% CI [.28, .64] (two SUE conditions combined, $M = 1.52$, $SD = 1.01$; Early Disclosure condition, $M = 0.36$, $SD = 0.99$). Hence, Hypothesis 1 was supported.

We expected no difference between the two SUE conditions with respect to statement-evidence inconsistencies. However, a mixed-design ANOVA with Interview Condition (SUE-Confrontation/Explain vs. SUE-Confrontation) as the between-subjects factor and Phase as the within-subjects factor revealed a significant main effect of Interview Condition, $F(1, 48) = 4.32$, $p = .04$, $r = .29$, 95% CI [.01, .53]. Unexpectedly, the suspects in the SUE-Confrontation/Explain condition were overall more inconsistent with the evidence ($M = 1.94$, $SD = 0.16$) than the suspects in the SUE-Confrontation condition ($M = 1.48$, $SD = 0.16$). There was a main effect of Phase demonstrating that Phase 1 resulted in more statement-evidence inconsistencies than Phase 2, $F(1, 48) = 8.40$, $p = .006$, $r = .39$, 95% CI [.13, .60]. No interaction effect was found, $F(1, 48) = .58$, $p = .45$, $r = .11$, 95% CI [–.17, .38]. Of special interest was the change over the phases within each SUE condition. Thus, we conducted multivariate simple effects tests for each SUE condition, comparing the change in inconsistency scores from Phase 1 to Phase 2. Suspects in the SUE-Confrontation condition were more inconsistent with the evidence in Phase 1 than in Phase 2, $F(1, 48) = 6.70$, $p = .01$, $r = .35$, 95% CI [.08, .57]. No such difference occurred for the SUE-Confrontation/Explain condition, $F(1, 48) = 2.78$, $p = .14$, $r = .23$, 95% CI [–.05, .48]. See Table 1 for the descriptive statistics.

Suspects' perception of the evidence

Suspects in the two SUE conditions were expected to perceive the interviewer to have had more information regarding the critical phase than the suspects in the Early Disclosure

Table 1. Descriptive statistics for the dependent variables broken down by interview type and phase.

Interview type	Phase 1 inc. *M* (*SD*)	Phase 2 inc. *M* (*SD*)	Perception of evidence *M* (*SD*)	Admission score *M* (*SD*)	Phase 1 forth. *M* (*SD*)	Phase 2 forth. *M* (*SD*)	Phase 3 forth. *M* (*SD*)
SUE-Confrontation/Explain	2.08 (0.86)	1.80 (0.91)	4.24 (2.57)	3.68 (2.29)	0.31 (0.29)	0.40 (0.30)	0.44 (0.30)
SUE-Confrontation	1.72 (0.79)	1.24 (1.05)	5.00 (2.71)	4.64 (2.53)	0.43 (0.26)	0.59 (0.35)	0.57 (0.33)
Early Disclosure	0.24 (0.72)	0.36 (0.99)	3.08 (2.31)	2.28 (2.34)	0.92 (0.24)	0.88 (0.33)	0.28 (0.29)

Note: Inc. = inconsistency scores; forth. = 'forthcomingness' scores.

condition. A one-way ANOVA with Interview Condition (SUE-Confrontation vs. SUE-Confrontation/Explain vs. Early Disclosure) as the factor revealed a significant effect on the suspects' perception of the evidence, $F(2, 72) = 3.64$, $p = .03$, $r = .30$, 95% CI [.08, .49]. Planned contrasts showed that, as predicted, suspects in the SUE conditions ($M = 4.62$, $SD = 2.64$) believed the interviewer to have had significantly more information about the critical phase than the suspects in the Early Disclosure condition ($M = 3.08$, $SD = 2.31$), $t(72) = -2.48$, $p = .02$, $r = .28$, 95% CI [.06, .48]. Moreover, as predicted, no difference was found between the SUE conditions, $t(72) = 1.06$, $p = .29$, $r = .12$, 95% CI [−.11, .34]. Hence, Hypothesis 2 was supported. See Table 1 for descriptive statistics.

The suspects' perception of how much information they thought the interviewer had about Phase 3 was positively and significantly correlated with the amount of critical information they revealed when asked about this phase for both the SUE-Confrontation/Explain condition ($r = .48$, $p = .02$, 95% CI [.10, .74]) and the SUE-Confrontation condition ($r = .74$, $p < .001$, 95% CI [.49, .88]), but not for the Early Disclosure condition ($r = .24$, $p = .24$, 95% CI [−.17, .58]). Hypothesis 3 was supported.

Admissions

We hypothesised that the SUE-Confrontation/Explain condition would result in the highest number of admissions, whereas the Early Disclosure condition would yield the lowest number. A one-way ANOVA with Interview Condition (SUE-Confrontation vs. SUE-Confrontation/Explain vs. Early Disclosure) as the factor revealed a significant effect on admissions, $F(2, 72) = 6.18$, $p = .003$, $r = .38$, 95% CI [.17, .56]. Post hoc comparisons using a Bonferroni test showed that the SUE-Confrontation/Explain condition did not differ from the SUE-Confrontation condition ($p = .48$), or from the Early Disclosure condition ($p = .13$). Importantly, the SUE-Confrontation interview elicited more admissions than the Early Disclosure interview ($p = .002$). See Table 1 for the descriptive statistics. In sum, Hypothesis 4a received no support; Hypothesis 4b received partial support.

We ran further analyses to clarify the results. Within the SUE-Confrontation/Explain condition, a relatively large portion of suspects ($n = 16$[2]) provided an explanation to one or more of their inconsistencies in Phase 1 or Phase 2, whereas a smaller group of suspects ($n = 7$[3]) did not explain any of their inconsistencies. We used an independent-sample *t*-test to compare these two subsets of suspects with respect to their admissions for Phase 3, as examining this could shed further light on the suspects' behaviour. Suspects who accounted for some or all inconsistencies admitted significantly more self-incriminating information about the critical phase ($M = 4.38$, $SD = 1.78$) than suspects who did not

explain any of their inconsistencies ($M = 1.43$, $SD = 1.62$), $t(21) = -3.74$, $p = .001$, $r = .75$, 95% CI [.50, .89]. In sum, suspects in the SUE-Confrontation/Explain condition varied in their verbal behaviour as a function of whether or not they explained their inconsistencies. This may account for the finding that this condition resulted in fewer admissions than expected.

Suspects' shifts of counter-interrogation strategies

To examine the shifts in suspects' counter-interrogation strategies, we ran separate polynomial trend analyses for each condition with respect to the suspects' 'forthcomingness' for all three phases. There was no significant trend in the SUE-Confrontation/Explain condition, $F(1, 23) = 3.31$, $p = .08$, $r = .35$, 95% CI [–.05, .65]. However, we found an increasing linear trend over the phases for the SUE-Confrontation condition, $F(1, 23) = 4.45$, $p = .046$, $r = .40$, 95% CI [.006, .687]. That is, the suspects' forthcomingness gradually increased throughout the interview. A decreasing linear trend ($F(1, 23) = 93.89$, $p < .001$, $r = .90$, 95% CI [.78, .96]) as well as a quadratic trend ($F(1, 23) = 19.10$, $p < .001$, $r = .67$, 95% CI [.37, .84]) emerged in the Early Disclosure condition. This indicated that suspects in the Early Disclosure condition had a similar level of 'forthcomingness' in Phases 1 and 2, but that their 'forthcomingness' decreased rather dramatically for Phase 3 (see Figure 1). Hypothesis 5 was partially supported.

Suspects' self-reports on their strategy shifts

The suspects were asked whether they changed their strategies at any point during the interview. In the SUE-Confrontation condition, 68% ($n = 17$) of suspects reported to have done so, compared to 52% ($n = 13$) in the SUE-Confrontation/Explain condition, and 40% ($n = 10$) in the Early Disclosure condition. The percentage of suspects who switched their strategies did not differ by interview type, χ^2 (2, $N = 75$) = 3.96, $p = .14$. The majority of the suspects reported to have changed their strategy during the five-minute break (SUE-Confrontation, $n = 11$; SUE-Confrontation/Explain, $n = 7$; Early Disclosure, $n = 9$); the timing of the change did not differ by interview type, χ^2 (2, $N = 75$) = 3.47, $p = .18$. Furthermore, to

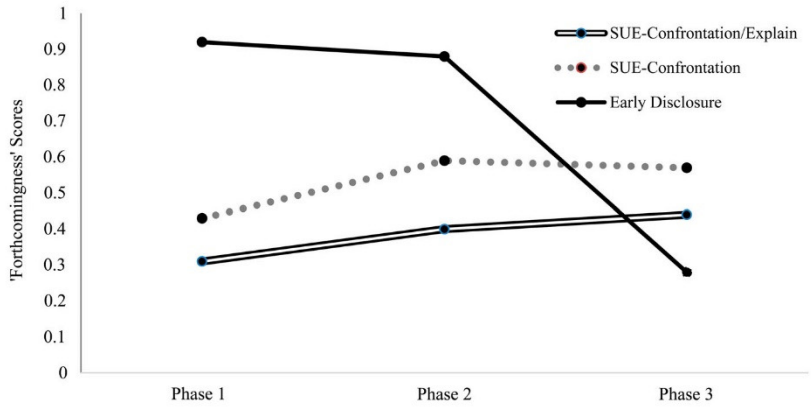

Figure 1. Suspects' 'forthcomingness' scores for each condition by Phase.

Table 2. Direction of suspects' shifts in their counter-interrogation strategies.

	Interview type		
	SUE-Confrontation/Explain *n* (%)	SUE-Confrontation *n* (%)	Early Disclosure *n* (%)
Forthcoming to witholding	0 (0%)	1 (6.25%)	4 (44.5%)
Witholding to forthcoming	5 (50%)	5 (31.25%)	2 (22.2%)
Remained forthcoming	4 (40%)	10 (62.5%)	2 (22.2%)
Remained witholding	1 (10%)	0 (0%)	1 (11.1%)

examine the direction of the shifts, we compared suspects' self-reported initial strategies to their claimed new strategies. In the SUE-Confrontation condition, 93.75% (15 out of 16) and in the SUE-Confrontation/Explain condition, 90% of the suspects (9 out of 10) either remained forthcoming or changed their strategies from withholding to forthcoming. The corresponding percentage for the Early Disclosure condition was only 44.50% (4 out of 9).[4] See Table 2 for the direction of the shifts.

Discussion

For the present study, we used strategic interviewing to inflate the suspects' perception of the interviewer's knowledge, and the inflated perceptions worked as a vehicle for eliciting admissions. In line with the principles underlying the SUE framework, and with the findings of Tekin et al. (2015), the suspects' perception of the evidence in the two SUE conditions (they overestimated the amount of evidence) affected their choice of strategy (they became more forthcoming), which in turn affected their verbal responses (they admitted to comparatively more critical information).

Furthermore, the present study advanced previous research in a number of ways. First, we examined a more ecologically valid interview tactic (SUE-Confrontation/Explain), for which the interviewer challenged the suspects' statement-evidence inconsistencies (e.g. Walsh & Bull, 2015). We used objective measures as well as subjective measures (i.e. suspects' self-reports) to study the shifts in suspects' counter-interrogation strategies. In addition, compared to previous research, we used a more sensitive measure to map the suspects' perception of the evidence.

Statement-evidence inconsistency

As predicted, the suspects in the two SUE conditions were more inconsistent with the evidence than the suspects in the Early Disclosure condition. Moreover, in the two SUE conditions the suspects' inconsistency declined from Phase 1 to Phase 2. This is perfectly in line with the findings reported by Tekin et al. (2015). A reasonable explanation for this is that some suspects already realised after Phase 1 that their withholding strategy did not pay off; thus they changed to a more forthcoming strategy after Phase 1 rather than after Phase 2.

Surprisingly, the suspects in the SUE-Confrontation/Explain condition were more inconsistent with the evidence than the suspects in the SUE-Confrontation condition. We argue that this was due to some suspects deciding to stay withholding throughout the SUE-Confrontation/Explain interview. We will elaborate on this below.

Suspects' perception of the evidence

For the two SUE conditions (unlike for the Early Disclosure condition), the amount of information the suspects believed the interviewer to possess about the critical phase correlated strongly with how much information they admitted about this phase of the crime. Reasonably, the suspects thought that the statement-evidence inconsistencies undermined their credibility; thus they strived to restore their credibility. In doing so, they acted on their perception of how much information they thought the interviewer held about Phase 3. In the Early Disclosure condition, however, due to how the evidence was disclosed (i.e. early in both Phase 1 and Phase 2), the suspects awaited the interviewer to present his or her evidence about Phase 3 before revealing any information. Since the interviewer did not disclose any evidence pertaining to this phase, the suspects withheld information. Put differently, their perception of how much the interviewer might know regarding Phase 3 did not affect how much they disclosed about this phase.

Admissions

The SUE-Confrontation interview resulted in more admissions than the Early Disclosure interview. This finding echoes past results showing that suspects are likely to adjust their counter-interrogation strategies from less to more forthcoming to account for the amount of evidence they believe the interviewer to possess (Granhag et al., 2009; Luke et al., 2014; Tekin et al., 2015). Broadly speaking, the suspects' goal is to convince the interviewer of their innocence (Granhag & Hartwig, 2008; Granhag, Hartwig, Mac Giolla, & Clemens, 2015). In the SUE-Confrontation condition, the suspects who realised that the interviewer may know more than they initially thought, and that contradicting the evidence posed a threat to their perceived credibility, revised their initial withholding strategies. Hence, these suspects switched to a more goal-congruent strategy (a more forthcoming strategy) to avoid further inconsistencies, and as a result of this they volunteered more information (admissions). These findings could also be explained through a social cognitive framework, namely the self-regulation theory (Carver & Scheier, 2012). According to this theory, people regulate their behaviour to achieve their goals. In doing so, they analyse the situation by gathering information from external sources and then deciding on the most goal-congruent strategy for that particular situation. If the strategy fails to meet the goal, they revise their hypothesis about the situation and change their strategy to attain the goal (MacKenzie, Mezo, & Francis, 2012). In the current context, the suspects regulated their counter-interrogation strategies to attain the goal of convincing the interviewer that they were innocent.

One unexpected finding was that the SUE-Confrontation/Explain interview did not outperform the other interviews in eliciting admissions. We based our prediction on the assumption that the suspects would take the opportunity to explain their inconsistencies in an attempt to restore their credibility, and in fact many of them did. These particular suspects aimed to avoid further inconsistencies in Phase 3 by revealing admissions. However, a portion of the suspects in this condition were withholding throughout the interview; they refrained from explaining their inconsistencies, and they revealed fewer admissions in Phase 3 (than the suspects who explained their inconsistencies). It is possible that these suspects refrained from explaining their inconsistencies because they thought

that changing their initial statement was relatively more threatening to their perceived credibility (Hartwig et al., 2014). Here it should be acknowledged that the interviewer emphasised that the unaccounted inconsistencies hampered their credibility. This might have resulted in suspects believing to have failed to provide a credible impression. As a result, they might have given up trying to convince the interviewer of their innocence, and therefore decided to stay with their withholding strategies. We argue that suspects' belief that they can restore their undermined credibility play an important role in making suspects more forthcoming during an interview.

Furthermore, suspects in the SUE-Confrontation/Explain condition who explained their inconsistencies ended up as forthcoming with respect to their activities in Phase 3 (their mean admission scores were almost as high as the suspects' in the SUE-Confrontation condition). However, the reasons why they switched to a more forthcoming strategy varied. The suspects acted in a rather similar manner with respect to their verbal behaviour in Phase 1 (i.e. they explained about 60% of their inconsistencies), but differed with respect to how they handled their inconsistencies in Phase 2: they explained either *all* (100%) or *some* (on average 20%) of their inconsistencies. We argue that they strived to appear credible either by fitting their story to the evidence or by maintaining within-statement consistency (by sticking to the initial story). The former group seemed to have focused on the rewarding aspect of clarifying their contradictions, while the latter group prioritised to avoid within-statement inconsistencies (see Heydon, 2004).

We have too few data points to statistically explore the SUE-Confrontation/Explain interview further. We believe it would be worthwhile to study this interview type in future research and expand our understanding of how suspects reason during strategic interviews.

Shifts in suspects' counter-interrogation strategies

Previous research has reported contradictory findings with regard to the shifts in suspects' strategies during the course of an interview. Some researchers have found that a suspect's initial strategy is unlikely to change (Alison, Alison, Noone, Elntib, & Christiansen, 2013; Deslauriers-Varin, Beauregard, & Wong, 2011; Soukara, Bull, Vrij, Turner, & Cherryman, 2009), which was true for a minority of the suspects in the present study. Some studies, however, have demonstrated that suspects may switch from a denial to a confession (or to admissions) as a result of the interviewer's strategy (e.g. Tekin et al., 2015). In the present study, the majority of the suspects who were interviewed strategically changed their counter-interrogation strategies. Critically, the suspects' strategies shifted in the expected direction, from withholding to forthcoming in the SUE conditions, and from forthcoming to withholding in the Early Disclosure condition. Importantly, the suspects' self-reports complemented these findings, speaking to the internal consistency of our findings.

Another potentially important finding is that many suspects (all conditions combined) reported to have altered their verbal behaviour during the five-minute break. The break might have provided the suspects time to consider the payoff of pursuing or changing their counter-interrogation strategy. We would like to acknowledge that the basis for this finding is the suspects' self-reports, which might not be the optimal way to study this issue. Hence, we believe that this finding deserves attention in future research.

Practical implications

The current study has several practical implications. Walsh and Bull (2015) examined (among other things) how different evidence disclosure models moderate the outcome of real-life suspect interviews. Relating the present paper to the study by Walsh and Bull helps to illuminate the many related, yet different, research questions that need to be addressed within this emerging field. Walsh and Bull showed that gradual and late disclosure models resulted in more comprehensive accounts than an early disclosure model. The extent to which these 'comprehensive accounts' covered different themes of a crime – other than the themes for which the inconsistencies were obtained – is not clear from their analysis. For the present study, we showed that strategic disclosure models (based on the SUE framework) resulted in an increased level of admissions on the critical phase for which the interviewer held no previous information. Critically, the results of these two studies converge, although the outcome was measured in different ways. More specifically, Walsh and Bull used a rather general measure (the outcome of the full interview), whereas the present study used a more specific measure (what the suspects told on one particular and critical phase). In brief, both archival studies (like the one by Walsh and Bull), and laboratory-based studies (like the present) are needed to advance our knowledge on the different effects following different ways of playing the evidence in suspect interviews.

Second, our set up was structurally similar to a situation which occurs rather frequently in real-life investigations: to have some background information about a suspect's whereabouts, but to have less or no information about a more critical phase of the crime. Our results offer an ethical approach for how to interview suspects in such cases. The tactical approach examined in the present study differs markedly from approaches that use deceit to attain confessions or admissions, for example by confronting the suspect with false evidence. Such trickery has been found to result in suspects admitting to crimes they have not committed (e.g. Kassin & Gudjonsson, 2004). Importantly, the SUE framework offers interviewers a strategic and ethically defensible way to utilise already known information to obtain previously unknown information. Finally, the SUE interviews accomplished multiple goals; they yielded cues to deceit (i.e. statement-evidence and within-statement inconsistencies), as well as admissions. Both these outcomes are critical when a prosecutor builds a case regarding a suspect's possible involvement in a crime.

Limitations

The first limitation is that our sample consisted of students and staff members who may not be representative of the typical suspect. However, suspects in real-life situations who aim to convince the interviewer of their innocence will presumably be more motivated to employ the most goal-congruent counter-interrogation strategy. In such cases, the SUE tactics may be even more effective than in laboratory settings.

Second, we did not examine the content of the suspects' explanations which may be critical to an investigation. For instance, a thorough explanation, as opposed to a superficial one, might contain a new lead. A measure which aims to capture the content of the suspects' explanations would be beneficial in further improving the SUE interview. Moreover, interviewers in real-life cases (unlike the interviewers in the present study)

may vary in their responses when suspects do or do not provide an explanation for an inconsistency. These responses may, in the next instance, affect the suspects' choice of counter-interrogation strategies, and we believe this is an important area for future research. Third, we did not require the suspects to report reasons for why they changed or did not change their strategies during the interview. The answers to such questions might have advanced our understanding of the suspects' decisions further. Fourth, the suspects were faced with the task of trying to remember how much information they estimated the interviewer to have held about the critical phase, as well as which strategies they have employed. It is possible that their retrospective self-reports were influenced by the interviewer's questions about the critical phase. On the other hand, such limitations should apply to all conditions and therefore cannot account for the differences found between the SUE interviews and the Early Disclosure interview. However, we encourage future research to address this critical issue.

Regarding the SUE interview itself, the technique is limited to cases in which the interviewer possesses some potentially incriminating information about the suspects' activities; therefore, the findings cannot be generalised to every case. Furthermore, confronting the suspects with unverified information might have undesired outcomes, such as false admissions and/or false confessions (Meissner et al., 2014). Hence, it is essential to ensure the accuracy of the information before utilising it to influence suspects' perception of the evidence.

Conclusions

In the current study, we were able to show that the suspects' perception of the evidence, which is open to influence, moderated the counter-interrogation strategy, which in return affected the suspects' decision to conceal or reveal information (Granhag & Hartwig, 2015). In addition, we examined a version of the SUE-Confrontation interview, which better reflected real-life situations, by allowing the suspects to explain their inconsistencies. The findings provided insight to various ways in which suspects applied their strategies to appear credible. We believe that understanding suspects' behaviour is key to counteract their strategies. In sum, the present study shows that the SUE tactics are promising for the elicitation of admissions from perpetrators.

Notes

1. Assigning the same value to each admission might be viewed as a limitation considering that the admissions may weigh differently in real-life (i.e. some may be more incriminating than the others). However, studying the weight of the admissions is beyond the scope of the present study.
2. Suspects who provided explanations varied in their behaviour with respect to the percentages of inconsistencies they explained. More specifically, as many as 11 out of 16 offered an explanation to 58% of their inconsistencies in Phase 1 and then to 100% in Phase 2. Five out of 16 explained 60% of their inconsistencies in Phase 1; however, only 20% in Phase 2. Both groups obtained a similar admissions score ($M = 4.18$, $SD = 1.66$, and $M = 4.80$, $SD = 2.17$, respectively).
3. The total number of suspects does not add up to 25 as two suspects were consistent with all six pieces of evidence.
4. The numbers do not add up to the total number of suspects who reported to have changed their strategies. This is because some of the suspects' responses fell into the 'other' category and were excluded.

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Appendix H: Manuscript of Study IV

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WILEY

RESEARCH ARTICLE

Police officers' use of evidence to elicit admissions in a fictitious criminal case

Serra Tekin[1*] | Pär Anders Granhag[1,2,3] | Leif A. Strömwall[1] | Aldert Vrij[4]

[1] Department of Psychology, University of Gothenburg, Gothenburg, Sweden

[2] Norwegian Police University College, Oslo, Norway

[3] Department of Psychology, University of Oslo, Oslo, Norway

[4] Department of Psychology, University of Portsmouth, Portsmouth, UK

Correspondence
Serra Tekin, Department of Psychology, University of Gothenburg, PO Box 500, SE 40530, Gothenburg, Sweden.
Email: serra.tekin@psy.gu.se

Abstract

We examined how police officers planned to interview suspects in a situation where they lacked information about a critical phase of a crime (i.e., the time during which the crime took place) but possessed information about less critical phases of the crime (i.e., the time before and/or after the crime took place). The main focus was the officers' planned use of the available information (evidence) to elicit admissions about the critical phase. A survey was distributed to police officers (n = 69) containing a fictitious murder case for which they were to prepare an interview with a suspect. The investigators planned to disclose the evidence more often in a strategic manner (obtaining the suspect's statement and exhausting alternative scenarios before revealing the evidence) than in a non-strategic manner (revealing the evidence before requiring an explanation). The investigators' most frequently reported reason for their planned evidence use was to collect additional information about the particular phase to which the disclosed evidence pertained. It was rare that the investigators planned to disclose the evidence about a less critical phase of the crime in order to elicit admissions about the more critical phase (e.g., by disclosing the evidence to try to shift the suspect's counter-interrogation strategy from less to more forthcoming). The investigators may benefit from recent research showing that strategic evidence disclosure can be used as a means to elicit admissions about a phase of a crime for which information is lacking.

KEYWORDS

admissions, evidence disclosure, police officers, suspect interviews

1 | INTRODUCTION

Consider a woman having been murdered. The crime took place sometime between 1.30 and 2:30 AM on a Sunday when she was walking back home from a party. The investigation led to the arrest of a suspect. At the point of arrest,

the police had no clear link between the suspect and the crime scene. The police lacked information pertaining to the critical phase of the crime (i.e., between 1:30 and 2:30 AM) but possessed information pertaining to less critical phases of the crime. For example, they had several pieces of information (evidence) about the suspect's activities before the crime (the suspect's browser history showed that the victim's Facebook profile had been visited repeatedly 2 days before she was killed) and after the crime (the suspect made two phone calls to a friend after 3:00 AM on the night of the murder). This scenario mirrors features that are rather frequent in real-life investigations. That is, investigators possess evidence about several phases of a crime but lack information about the more critical phase. However, little is known about how police officers interview suspects in such situations. The present study aims to fill this void by examining police officers' use of the available evidence in situations where it is necessary to elicit admissions regarding the critical phase for which information is lacking. Admissions are defined as new and critical information that can provide new leads for further investigation or establish links between a suspect and a crime without the suspect acknowledging responsibility for the crime (e.g., Perry, 2012).

Previous research examining real-life interviews and investigators' self-reports shows no consensus on the timing of evidence disclosure for suspect interviews. For example, studies conducted in the United States (Leo, 1996) and Canada (King & Snook, 2009) showed that investigators generally disclose the evidence early in the interview. That is, suspects are typically made aware of the evidence held by the investigator before their statement is obtained. In contrast, in England and Wales, investigators tend to reveal the evidence either gradually (drip-feeding the evidence) or late (in a lump at the very end) in the interview (Smith & Bull, 2014; Walsh, Milne, & Bull, 2016). In such interviews, open-ended and specific questions are posed to obtain the suspect's statement before disclosing the evidence (for a detailed description of the PEACE model [Planning and preparation, Engage and explain, Account, Closure, Evaluation] adopted in England and Wales, see Milne & Bull, 1999). The fact that investigators have different interview purposes may account for the inconsistent research findings. That is, the aim of the interview, to either obtain a confession or to gather information, may affect the investigators' preferred timing of disclosing the evidence.

It is plausible to refer to late and gradual disclosure of evidence as 'strategic' because such disclosure has been found to yield more desirable interview outcomes, such as useable cues to deceit and more comprehensive statements, compared with early disclosure of evidence (Bull, 2014; Hartwig, Granhag, & Luke, 2014). For instance, research has shown that strategic use of evidence (i.e., not revealing the evidence until a suspect's statement is obtained and alternative explanations to the evidence are exhausted) provides the opportunity to observe possible inconsistencies between the suspect's statement and the evidence and these so-called statement-evidence inconsistencies are diagnostic cues to deceit (Hartwig et al., 2014). More specifically, a guilty suspect in denial, without knowing what information the investigator holds, typically provides a statement inconsistent with the evidence. In contrast, an innocent suspect is typically forthcoming with information and therefore shows a much lesser degree of statement-evidence inconsistency (Hartwig, Granhag, & Strömwall, 2007; Strömwall, Hartwig, & Granhag, 2006). Hence, the degree of statement-evidence inconsistencies can be used to detect deception or truth (e.g., Clemens, Granhag, & Strömwall, 2011; Hartwig, Granhag, Strömwall, & Vrij, 2005). However, disclosing the evidence at the onset of the interview runs the risk of providing a guilty suspect the chance to construct a story consistent with the evidence. A guilty suspect, knowing what information the investigator holds, typically avoids contradicting the investigator's knowledge. In sum, early disclosure of evidence makes it difficult for an investigator to discriminate between a guilty and an innocent suspect (Hartwig et al., 2005).

A further possible outcome of strategic evidence disclosure is the collection of new information. In recent years, laboratory-based studies, examining the effect of evidence disclosure on eliciting admissions, found that if the available evidence was used strategically, admissions could be obtained from mock suspects about a critical phase of a crime for which information was lacking (Tekin et al., 2015; Tekin, Granhag, Strömwall, & Vrij, 2016). The interview tactic tested in these studies rested on the assumptions that (a) a suspect's perception of how much evidence the interviewer held would affect his or her counter-interrogation strategies and (b) these counter-interrogation strategies would affect what the suspect reveals or conceals during the interview. In these studies, the perception of the evidence referred to the suspect's view about the amount of information the interviewer held about the crime (Hartwig

et al., 2007). Research shows that guilty suspects typically form a hypothesis about what information the interviewer might have about them (e.g., Moston & Engelberg, 2011; Sellers & Kebbell, 2011). Moreover, counter-interrogation strategies refer to the suspect's attempts to convince the interviewer of his or her innocence (Granhag & Hartwig, 2008).

The goal of the interview tested by Tekin and colleagues was to influence guilty suspects' perception of the evidence through strategic interviewing, to make them more forthcoming. The interviewer first focused on the phases of the crime for which she or he possessed evidence. By using the evidence strategically (i.e., obtaining the suspect's statement before disclosing the evidence pertaining to that particular phase), the interviewer obtained statement-evidence inconsistencies. In the next instance, the interviewer confronted the suspect with these inconsistencies to affect his or her perception of the evidence (i.e., to make the suspect think: 'The interviewer seems to have more information than I first thought'). This resulted in the suspect overestimating the amount of evidence that the interviewer held and consequently shifted his or her counter-interrogation strategy, from a withholding to a more forthcoming strategy. Finally, the interviewer turned to the critical phase (for which she or he in fact lacked information). When the interviewer posed open-ended questions about the critical phase, the suspect was then more forthcoming in order to be consistent with the information she or he believed the interviewer to possess. In sum, the guilty suspects who were interviewed with this interviewing tactic disclosed more admissions about the critical phase (e.g., admitting to being at the crime scene) compared with the guilty suspects in the conditions where the evidence was disclosed at the onset of the interview or not disclosed at all. In essence, the interviewer's strategic use of evidence influenced the suspects' perception of how much information she or he held against them. The inflated perception of the evidence about the critical phase (for which information was lacking) affected the suspects' level of forthcomingness for this particular phase.

Furthermore, Walsh and Bull (2015) examined the association between the timing of the evidence disclosure and the interview outcome and found that gradual and late disclosure models (vs. early disclosure) resulted in more comprehensive accounts. However, it is unclear from this study whether these accounts consisted of an expanded knowledge of the phase of the crime to which the disclosed evidence pertained or admissions about a critical phase to which evidence was lacking.

1.1 | The present study

The first aim of the present study was to fill a gap in the literature by examining investigators' planned use of evidence when possessing evidence about less critical phases of a crime (before and after) but lacking information about the most critical phase (the time during which the crime took place). The critical phase was defined as the phase for which new information could enable the investigator to infer whether there were any links between the suspect and the crime. The second aim was to advance current knowledge by examining the reasons behind the investigators' preferred evidence disclosure mode. The term 'reason' here refers to the goal an investigator strives to achieve by his or her way of disclosing the evidence.

To address these aims, investigators were given a fictitious murder case and were asked to plan for an interview with a suspect. The case was created to mimic a situation in which the investigators possessed evidence about several less critical phases of a crime but lacked information about a more critical phase. The available evidence pertaining to the suspect's activities *before* and *after* the crime raised suspicion about the suspect's involvement in the crime but was insufficient to link the suspect to the actual crime. In brief, eliciting admissions about the critical phase was the key to the investigation.

2 | METHOD

2.1 | Sample and procedure

A survey was administered to police investigators who conduct suspect interviews on a regular basis. Of the 112 investigators who were approached, 74 agreed to participate in the study. Of these 74, five reported not to be

interviewing suspects (we did not possess information about their interviewing experience in the past) and were thus excluded. In the end, the responses from 69 investigators from various police departments in the Netherlands (n = 50, 72%), in Norway (n = 15, 22%), and in the UK (n = 4, 6%) were analyzed. The variables explored in this study were (a) the investigators' planned use of evidence and (b) the investigators' reasons behind their preferred evidence disclosure mode.

The sample consisted of 36 men (54%) and 31 women (46%), aged between 24 and 59 years (M = 42.1, SD = 9.3; two investigators did not provide demographic information). The experience as an investigator ranged from 1 to 28 years (M = 9.9, SD = 6.8). The average number of hours per week the investigators spent interviewing suspects was 6.1 (SD = 5.6). Forty-four (66%) investigators reported to have received special training in suspect interviewing.

The investigators were approached through contact persons at the police academies and at various police departments. The investigators received either an online version (through the emailing lists consisting of investigators in the Netherlands and in Norway and through personal email in the UK) or a pen and paper version of the survey (the first author visited several training courses at the police academies in the Netherlands and in Norway).

The investigators received a consent form and agreed to take part in the study either by signing the form or by clicking "I agree to take part in this study" button on the online survey. They were informed that their participation was voluntary and that their data would be kept anonymous. The survey took approximately 20 min to complete. After the completion of the survey, the investigators were debriefed and thanked for their participation. They were also provided with the contact details of the researchers in case they were interested in obtaining the results of the study. The study was approved by the Science Faculty Ethics Committee at the University of Portsmouth.

2.2 | Materials

The questionnaire consisted of an introduction, details of a fictitious murder case, a set of questions regarding how the investigators would plan an interview with the suspect in the case, and questions about the investigators' demographic characteristics. The survey was translated from English into Dutch and Norwegian by native speakers. Then, a researcher in the Netherlands (who had experience in the field of legal psychology) and a police officer in Norway ensured that the translations matched the language used by the police in these countries.

2.2.1 | Introduction

The introduction provided the investigators with a summary of the case. The respondents were informed that a murder had taken place and that a suspect had been arrested. The suspect denied any involvement in the crime but was willing to cooperate and to take part in an interview. The prosecutor's assessment was that the evidence collected thus far was insufficient, and that more information was required to prosecute the case. The task for the investigators was to plan an interview with the suspect based on the case details. Importantly, the investigators received a specific objective: *"You are now asked to plan an interview with the suspect based on the case information you will read soon. In this interview, your objective is to collect new information from the suspect. Specifically, we would like you to focus on eliciting new information to be able to infer whether there is any link (of any strength) between the suspect and the crime scene"*. Following this, it was stressed that there was no right and wrong answers, and that the study was exploratory.

2.2.2 | The fictitious case

Next, the investigators received details about the fictitious case and the reasons for the suspect's arrest (Appendix A). Before reading the case, the investigators were informed that there was no need to memorize the details because they could always go back to the given information while answering the questions. The case details guided the investigators through the information that the police investigation had yielded. The case details were created by drawing upon inspiration from a real murder case and with additional help from two experienced investigators (not participants in the study).

2.2.3 | Questions regarding planning

This section consisted of questions aiming to capture the investigators' preferred use of evidence. Before answering these questions, investigators were informed that the suspect had no knowledge about which information the police possessed, except that he was suspected of the murder in question. They were also reminded of the objective of the interview that they were asked to plan. Moreover, the investigators were told that, if they needed to conduct multiple interviews to meet the objective, they should think of these interviews as one while answering the questions.

The investigators first listed a maximum of 15 pieces of information they believed to be critical in the case ("*We would like to know what you would ask the suspect related to the available information in this case. First, please write down*

We would like to know what you would ask Frank (the suspect) related to the available information in this case. Please write down (in Column 1) which pieces of information you think are critical (one piece for each row).

Then please pick the most important 3 pieces of information and answer the questions in Column 2 and Column 3 only for those 3 pieces.

Column 1	**Column 2**	**Column 3**
The piece of information	**What question would you ask related to this piece of information?**	**What do you want to achieve with your question?**
The victim was killed with several blows to the head	How did you kill Linda?	Figure out how the crime has taken place and more importantly why.
Suspect's route leaving party		
The suspect was on the phone at night	What is your calling behaviour?	To check whether he calls more often at night
The red sweater	Where do you spend your income on? How much money do you spend on your hobbies? How much money do you spend on clothes? What kind of clothes do you like? What kind of clothes do you wear? What clothes did you wear to the party?	He cannot later say it was someone else who had his sweater
CCTV footage		
Suspect's browser history		

FIGURE 1 Questions regarding planned evidence use and an example response (the example was formed by bringing together responses from several investigators)

which pieces of information you think are critical"). This aimed to provide the investigators the opportunity to focus on what they believed to be important in the case. The number of critical pieces was limited due to the time constraints on behalf of the participants. Next, the investigators were asked to pick the three most important pieces from their list and answer the following two questions for each of these pieces: "*What question would you ask related to this piece of information*?" and "*What do you want to achieve with that question*?". These two questions intended to capture the investigators' planned use of the evidence and the reasons behind their preferred evidence disclosure mode. The rationale behind limiting the number of responses to three was to obtain a sufficient number of responses that would enable us to infer the investigators' preferred evidence use while taking up as little of their time as possible. See Figure 1 for an example response to these questions. Finally, the investigators rated their perception of the strength of evidence against the suspect on a 7-point Likert scale (1 = *very weak*, 4 = *neither weak nor strong*, 7 = *very strong*).

2.2.4 | Demographic questions

The final part of the survey collected the following demographic information from the investigators: age, gender, the length of service as an investigator, the average number of hours they spend conducting suspect interviews in a week, and a yes/no question regarding whether they have received special training about suspect interviewing.

2.3 | Coding

To be able to code the data, all responses were translated from Dutch and Norwegian into English by native speakers of these languages.

2.3.1 | Evidence use

Three primary categories were used to assess the investigators' planned use of evidence: (a) strategic, (b) non-strategic, and (c) other. A piece of information was considered as having been used strategically if the investigator invited the suspect for a free recall and/or exhausted the suspect's possible alternative explanations to the evidence before revealing it (e.g., one investigator planned to strategically use the eyewitness statement indicating that the suspect was drunk at the party by posing the following question: "Can you tell me what you have drank at the party?"). A piece of information was considered as having been used non-strategically if the investigator revealed it early on in his or her line of questioning (e.g., "We have eyewitness evidence indicating that you were drunk at the party. Tell me what you have drank").

Responses were placed into the "other" category if the question (a) was unclear as to whether it targeted the piece of information listed (e.g., one investigator planned to use the piece of information "the search of the victim's Facebook profile" by posing the following question: "How much do you value your privacy?") or (b) did not concern any piece of information (e.g., "What were you doing at the time of the crime?"). This categorization was developed based on past research examining the outcome of different evidence disclosure modes (e.g., Dando & Bull, 2011; Hartwig, Granhag, Strömwall, & Kronkvist, 2006; Hartwig et al., 2005). Two coders coded a random 20% of the responses based on these pre-determined categories. The percentage of agreement was good, 81.9% (Cohen's κ = .69, 95% confidence interval [CI] [.56, .83]). The disagreements were settled in a discussion between the coders, and one of the coders subsequently coded the remaining responses. Based on this coding, the investigators were categorized into three groups: Investigators who planned to use (1) each piece of evidence in a strategic manner, (2) each piece of evidence in a non-strategic manner, or (3) some pieces in a strategic manner and some pieces in a non-strategic manner. Please note that this categorization was completed based on the pieces of evidence for which the investigators formulated questions.

2.3.2 | Reasons behind evidence use

The investigators reported what they aimed to achieve with the questions they formulated for the pieces of information that they assessed as critical. The first author initially reviewed all responses and created a list of seven

categories. These were (1) to obtain new information about the evidence already held, (2) to obtain new information about the critical phase of the crime, (3) to obtain new information about a theme unrelated to the crime, (4) to compare the suspect's statement with the evidence already held, (5) to 'encircle' (e.g., exploring and ruling out possible alternative explanations to the evidence, see Van der Sleen, 2009), (6) to support a hypothesis, and (7) other (statements not captured by any of the categories above). See Table 1 for example statements reported by investigators for each of these categories.

Two coders (the first and the third authors) coded a random 20% of the responses based on the list of categories earlier. The percentage of agreement was 50.77% (Cohen's κ = .42, 95% CI [.28, .56]). Because the inter-rater reliability was unsatisfactory, we deemed it necessary to switch to another approach. After a long discussion, we concluded that the categorization was conducted on somewhat unusual data. More specifically, the investigators' responses about their reasoning were very much related to the questions they had formulated with respect to how they would present the pieces of evidence they deemed critical. However, the first round of coding was carried out without much consideration given to the investigators' question formulations. In order to be fair to the thinking processes on behalf of the investigators, we had to look back at the questions, which made the categorization unusually complex. Following this, we together meticulously reviewed the responses that we had previously coded separately, while now taking into account the investigators' responses regarding their planned evidence use. These extensive discussions led to an agreement for the categorization of each response. When we were convinced that we had a similar understanding, one of us coded the remaining responses. For the few occasions (n = 11) in which categorization was difficult, the coder consulted the second coder. This approach may have increased the subjectivity of the coding, but it is important to stress that our collective thinking led to high agreement.

3 | RESULTS

3.1 | Preliminary analyses

The investigators' ratings of the strength of evidence against the suspect (M = 4.25, SD = 1.04; 4 = *neither weak nor strong*) showed that the fictitious case successfully mimicked the type of cases of interest (i.e., cases in which the evidence raises suspicion about the suspect's involvement in the crime, but where the evidence is not conclusive). No difference was found between the online and the pen and paper versions of the survey.[1]

TABLE 1 Examples of self-reported reasons behind investigators' preferred use of evidence and the frequency of these reasons broken down by evidence disclosure mode

Categories	Example statement "I plan to use this piece of evidence to..."	Strategic Use of Evidence % (n)	Non-strategic Use of Evidence % (n)
1. To obtain new information about the evidence already held	...clarify why the suspect made two phone calls very late at night"	22.3 (47)	43.4 (36)
2. To obtain new information about the critical phase of the crime	...find out the suspect's route from the party to his home"	9.5 (20)	6.0 (5)
3. To obtain new information about a theme unrelated to the crime	...get to know his relationship with the housemate"	9.5 (20)	1.2 (1)
4. To compare the suspect's statement with the evidence already held	...compare the suspect's statement about the chain of events with the witness statements"	35.5 (75)	13.3 (11)
5. To encircle	...establish who else uses the phone"	12.8 (27)	1.2 (1)
6. To support a hypothesis	...prove beyond doubt that the suspect knew the victim"	6.6 (14)	24.1 (20)
7. Other	...increase pressure"	3.8 (8)	10.8 (9)

Note. n = the number of reported reasons that fell into that particular category.

3.2 | Evidence use

A total of 543 pieces of evidence were assessed as critical by the investigators. This was calculated by counting the number of pieces of evidence each investigator listed as critical. On the basis of the 543 pieces of evidence, 320 questions were formulated.[2] Of these 320, 283 (88.4%) were questions in which the evidence was planned to be used (either strategically or non-strategically) as required. However, 37 (11.6%) were questions, which did not involve using the piece of evidence assessed as critical; thus, these fell into the 'other' category. The evidence was planned to be used in a strategic manner 70% of the time (i.e., obtaining the suspect's statement before disclosing a particular piece of evidence) and in a non-strategic manner 30% of the time (i.e., disclosing the evidence to the suspect before posing questions about it). A paired samples *t*-test revealed that the investigators planned to use the evidence strategically (M = 2.87, SD = 2.42) more often than non-strategically (M = 1.23, SD = 1.67), $t(68) = 4.25$, $p < .001$, $r = .46$, 95% CI [.25, .63]. Next, the investigators were categorized based on their overall planned use of evidence (i.e., how they planned to use the pieces for which they have formulated questions). Of the 69 investigators, 31 (44.9%) planned to disclose all pieces of evidence strategically, and 12 (17.4%) planned to disclose all pieces non-strategically. The remaining 26 (37.7%) investigators planned to disclose some pieces of evidence in a strategic manner and the other pieces of evidence in a non-strategic manner.

3.3 | Reasons behind evidence use

The average number of goals the investigators strived to achieve in one interview was 2.61 (SD = 1.30, n = 68). This was calculated by adding up the number of independent categories coded for each investigator; hence, it is a different measure than the total number of reported reasons per investigator. A one-way ANOVA with planned evidence disclosure mode (exclusively strategic vs. exclusively non-strategic vs. a combination of strategic and non-strategic) as the factor revealed no significant effect on the number of goals the investigators reported, $F(2, 67) = 1.35$, $p = .27$, $r = .19$, 95% CI [−.04, .42].

The investigators reported in total 294 reasons. Of these, 211 were reported for their planned strategic use, whereas 83 were reported for their planned non-strategic use. When planning to use the evidence *strategically*, the investigators' most often expressed reason was to compare the suspect's statement with the evidence (35.5%). This was followed by obtaining new information about the evidence already held (22.3%) and ruling out alternative explanations to the evidence, that is, encirclement (12.8%). The least frequent reported reasons were to (a) obtain new information pertaining to the critical phase for which the investigators lacked information (9.5%)[3], (b) obtain new information pertaining to a theme unrelated to the crime (9.5%), and (c) support a hypothesis (6.6%). Furthermore, the most frequent reasons to disclose the evidence *non-strategically* were to (a) obtain new information about the evidence already held (43.4%), (b) support a hypothesis (24.1%), and (c) compare the suspect's statement with the evidence (13.3%). It was rare that investigators aimed to (a) obtain new information about the critical phase (6.0%), (b) obtain new information unrelated to the crime (1.2%), and (c) rule out alternative explanations to the evidence, that is, encirclement (1.2%). (See Table 1 for the frequency of the self-reported reasons for each category.) In sum, the investigators' goals for strategic and non-strategic planned used of evidence commonly revolved around gathering information about the themes of evidence for which evidence already existed. The investigators planned to use very few pieces of evidence to obtain information pertaining to the critical phase.

4 | DISCUSSION

The present study is the first to explore the planned use of evidence for suspect interviews for which the investigator possesses evidence on less critical phases of a crime, but lacks information on the most critical phase. The study also expands previous research by examining investigators' self-reported motivation behind their planned use of the evidence.

4.1 | Evidence use

The investigators planned to use the evidence strategically more often than non-strategically. Furthermore, almost half of the investigators planned to use a strategic disclosure mode for each critical piece of evidence. These findings are consistent with the outcome of previous studies conducted in England and Wales (e.g., Smith & Bull, 2014; Walsh & Bull, 2015). This is not surprising considering that the current sample consisted of investigators from countries that have adopted an information gathering approach to suspect interviewing (KREATIV in Norway, Fahsing & Rachlew, 2009; The General Interview Strategy in the Netherlands, Hoekendijk & van Beek, 2015; PEACE model in England and Wales, Milne & Bull, 1999). However, almost one-fifth of the investigators planned to confront the suspect with the critical pieces of evidence early in their line of questioning, which suggests that they might not have fully adopted the recommended guidelines of suspect interviewing in their respective countries.

Two in every five investigators planned to use certain pieces of evidence in a strategic manner, and to use other pieces in a non-strategic manner. Stated differently, these investigators planned to alter between different evidence disclosure modes in the same interview. This finding differs from the outcome of previous studies in which the investigators have reported to prefer one evidence disclosure mode over the other (e.g., Smith & Bull, 2014; Walsh et al., 2016). This difference may be attributed to the type of questions posed in the past studies exploring investigators' preferred evidence disclosure modes. Smith and Bull (2014) and Walsh et al. (2016) used forced-choice questions for which investigators were to choose one of the pre-determined options, with each option corresponding to only one disclosure mode. Such questions, unlike the open-ended questions used in the present study, may have limited the opportunity for the investigators to report their behavior in full. In support of this, Granhag, Clemens, Strömwall, and Mac Giolla (2015) found a result similar to that of the present study by using open-ended questions to explore custom officers' preferred evidence disclosure mode. The results showed that a number of officers planned to employ different evidence disclosure modes for different pieces of evidence.

We believe that the finding that the investigators planned to use different evidence disclosure techniques for different pieces of evidence encourages the reconsideration of the prevailing view in research that strategic interviewing consists of one evidence disclosure mode only (e.g., gradual or late). To be more specific, researchers commonly categorize the use of evidence as strategic if the pieces of evidence are disclosed late or gradually in an interview, and as non-strategic if the pieces are disclosed at the onset of an interview (e.g., Dando & Bull, 2011; Hartwig et al., 2005). In brief, such a classification is too simplistic. For instance, a late disclosure of evidence can be non-strategic if an investigator fails to exhaust alternative explanations to the evidence before revealing it. Similarly, disclosing some, but not other, pieces of evidence early in an interview may be strategic. That is, the suspect may believe that the investigator does not hold more information than what s/he has already disclosed. Hence, the suspect may contradict a piece of evidence that was not disclosed. Such a statement-evidence inconsistency, in some instances, may be more valuable than a statement in which the suspect contradicts several existing pieces of evidence. In sum, using different disclosure modes for different pieces of evidence can counteract the counter-interrogation strategy a suspect develops as a result of the investigator's initial strategy. In contrast, using the same disclosure mode for every piece of evidence may be counterproductive as this may help a suspect to predict the investigator's strategy and, in turn, develop effective counter-interrogation strategies (Granhag & Hartwig, 2015).

4.2 | Reasons behind evidence use

We found that the investigators adopted multiple goals for their planned interviews. These goals commonly revolved around gathering information irrespective of the preferred evidence disclosure mode (e.g., comparing the suspect's statement with the evidence and obtaining new information about the evidence itself).

The most common reasons behind the investigators' planned strategic use of the evidence concerned expanding the knowledge about the themes of evidence pertaining to the less critical phases of the crime. That is, the investigators commonly aimed at using a piece of evidence to (a) compare it with the suspect's statement, (b) gain new

information about that particular theme of evidence, or (c) exhaust alternative explanations to that particular piece of evidence. For instance, one of the pieces of evidence was the suspect's browser history showing that the victim's Facebook profile had been visited repeatedly two days before she was killed. Consider that an investigator planned to use this piece of evidence in a strategic manner. The investigator would then aim at expanding his or her knowledge about this particular piece of evidence by (a) observing whether the suspect contradicted this fact in his statement, (b) finding out more about the suspect's use of social media, or (c) asking whether someone else had access to his computer. In sum, by planning to use the evidence strategically, the investigators aimed at gathering information that pertained to the theme of evidence for which they planned to pose questions.

Furthermore, very few pieces of evidence were planned to be used to gain new information pertaining to the critical phase for which information was lacking. For instance, if an investigator planned to use the evidence regarding the suspect's browser history, she or he would then aim at gaining new information about the suspect's activities during the critical phase (e.g., by disclosing the evidence to try to shift the suspect's counter-interrogation strategy from less to more forthcoming). Taken together, our interpretation of these findings is that the investigators commonly planned to use strategic disclosure as *an end in itself* (to find out more about the theme of evidence asked about), rather than as *a means to an end* (to obtain information about the critical phase).

For the current scenario, it was crucial to attain admissions about the critical phase. The investigators were explicitly informed that their objective was to elicit new information that could help determine whether or not the suspect was linked to the crime scene. Yet, the investigators rarely focused on this objective when planning how to use the evidence. We offer four possible explanations for this finding. First, the investigators might have forgotten the objective while planning their interview. Second, they might have failed to understand the objective. Third, they might have understood the objective yet (for one reason or another) adopted a different objective. Fourth, they might have tried to achieve the objective but did not know how to use the evidence to arrive at the objective.

All these explanations may be valid, but we believe that the fourth explanation is the most plausible one. First of all, the objective was overtly and repeatedly stated in the survey. Therefore, it is unlikely that the investigators would have forgotten or misunderstood the objective. Considering the third explanation, the investigators' self-reports suggest that it is possible that they adopted a different objective, which was to expand their knowledge about the themes of evidence. However, our data contain no lead for offering an explanation as to why a majority of the investigators would have disregarded the given objective. Hence, we believe that it is more likely that the investigators did not know how to use the available evidence in order to elicit new information about a phase for which they lacked information.

The recommended interviewing guidelines, based on information gathering approaches (e.g., the PEACE model), do not offer specific interviewing tactics for how to use evidence strategically in order to elicit admissions about a phase for which information is lacking. The investigators in this study were trained with these guidelines or not trained at all; therefore, it is not surprising that this goal was not commonly reported as a part of their planning. It is plausible to assume that if the investigators were acquainted with the notion of using known information as a means to gather unknown information, this would have been reflected in their planning.

The notion of using the evidence to elicit new and critical information is rather novel, and the studies addressing this matter are few and very recent (Tekin et al., 2015, 2016). These new findings demonstrate that an investigator may shift a suspect's counter-interrogation strategy from less to more forthcoming by using the evidence in a strategic manner. This shift may yield admissions that can, for instance, place the suspect at the crime scene (without the suspect admitting to have committed the crime). To our knowledge, this line of research is the only one thus far that offers an empirically supported interviewing tactic for obtaining admissions via strategic disclosure of evidence.

4.3 | Limitations and future directions

The first limitation relates to the method chosen for the present study, that is, obtaining investigators' self-reports. It could be argued that in self-report studies, investigators may provide answers that are socially desirable; thus, these

responses may not fully reflect their behavior in real life. However, this concern may be unfounded because the findings from archival studies examining investigators' evidence use in various countries (in the United States, Leo, 1996; in Australia, Sellers & Kebbell, 2011; in the UK, Walsh & Bull, 2015) were in line with the findings obtained from investigators' self-reports in the same countries (in the United States, Kassin et al., 2007; in Australia, Smith & Bull, 2014; in the UK, Walsh et al., 2016).

Second, there was a lack of interaction between the investigator and the suspect. Hence, we cannot comment on the extent to which the investigators' pre-interview plans would change as a result of the suspect's behavior. For instance, the disclosure of a certain piece of evidence may affect a suspect's perception of the strength of evidence, which, in turn, may result in the suspect changing his or her initial counter-interrogation strategy. As a result of this change, the investigator may revise and alter his or her initial evidence disclosure plan (for the pieces that has not yet been disclosed) to counteract the suspect's new strategy. We believe that it is important for future research to examine the influence of this interaction on investigators' initial evidence disclosure plans.

Third, the investigators may plan to use tactics not involving to disclose evidence to gain information on the critical phase of the crime. Future research should address this by exploring investigators' interviewing techniques and tactics on a broader level. Fourth, few but still some of the investigators planned to use the evidence to elicit admissions about the critical phase. However, the study design did not allow for follow-up questions to be posed to these investigators with respect to the underlying mechanisms they would have trusted to yield admissions as a result of their planned evidence use. Future research on the mechanisms through which investigators aim to elicit admissions with their evidence use is necessary. Finally, coding the reasons reported by the investigators was difficult. We solved this by discussing all reasons that were hard to categorize in detail. Future researchers are advised to develop better working ad-hoc coding schemes.

4.4 | Conclusions

The present study provides a deeper understanding of police officers' planned use of the evidence and their reasoning behind their planning. We found that investigators commonly planned to use the available evidence strategically. Furthermore, we found that this planned strategic disclosure was mostly used as a means to elicit new information about the themes for which evidence already existed, rather than to gather information about the critical phase for which information was lacking. Investigators may benefit from recent research showing how strategic use of evidence can be used as a vehicle to elicit critical information that can assist in establishing links between a suspect and a crime (Tekin et al., 2015, 2016). We believe that interviewing practice will improve if this strategic interviewing tactic is included in police training manuals as one of the many tools that can be used in suspect interviews.

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ENDNOTES

[1] To compare the online and the pen and paper versions with respect to the investigators' planned use of evidence, a 'strategic use' and a 'non-strategic use' ratio were calculated for each investigator by dividing the number of pieces planned to be used strategically and non-strategically respectively, by the total number of pieces for which investigators formulated questions. No difference was found between the two versions of the survey with respect to the investigators' planned strategic use, $t(67) = -0.19$, $p = .85$, $r = .002$, 95% CI [−.21, .26], (online, $M = 0.59$, $SD = 0.06$; pen and paper, $M = 0.61$, $SD = 0.34$) and planned non-strategic use, $t(67) = 1.34$, $p = .18$, $r = .16$, 95% CI [−.08, .38], (online, $M = 0.33$, $SD = 0.35$; pen and paper, $M = 0.22$, $SD = 0.28$). Moreover, the two versions of the survey did not differ with respect to (a) the number of pieces of evidence assessed as critical, $t(67) = 0.59$, $p = .56$, $r = .07$, 95% CI [−.17, .30], (online, $M = 5.67$, $SD = 3.57$; pen and paper, $M = 5.17$, $SD = 2.99$), (b) the number of questions formulated for the critical pieces of evidence, $t(67) = 1.58$, $p = .12$, $r = .19$, 95% CI [−.05, .41], (online, $M = 4.47$, $SD = 2.93$; pen and paper, $M = 3.42$, $SD = 1.93$), and (c) the number of reasons reported for the planned evidence use, $t(66) = 1.11$, $p = .27$, $r = .14$, 95% CI [−.10, .37], (online, $M = 4.61$, $SD = 3.07$; pen and paper, $M = 3.79$, $SD = 2.55$).

[2] Of the 69 investigators, 41 did not follow the instruction to formulate questions for three pieces only, thus the number of questions per investigator ranged between 1 and 13 (M = 4.10, SD = 2.66). Two investigators formulated only one question; five investigators formulated two questions. The remaining 62 formulated three or more questions.

[3] Only 33% (n = 23) of the investigators reported to adopt this goal as a part of their planned interview.

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Appendix A

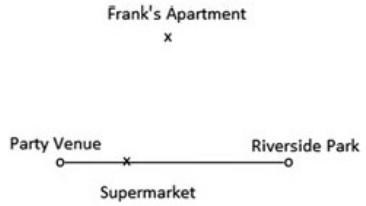
Case details

Imagine today is May 11, Monday. Linda, the deceased, was new in town and attended a party on Saturday May 2, a party that she found out about on Facebook. She left the party at approximately 1:00 AM (May 3) and was talking to a friend on the phone while walking back home. Her friend heard Linda suddenly start screaming, and then the line was disconnected. Linda's friend notified the police, and the police started to look for Linda. In the morning, Linda's body was found in Riverside Park, about 1.3 miles/2 km away from the party venue.

The name of the suspect is Frank. Here is what the police have found so far and the reasons for Frank's arrest:

- Linda had been beaten to death; the death was caused by numerous hits to her head by a blunt object. No one seems to have witnessed anything suspicious around the area. No traces or other DNA were found on the victim.
- The police officers found an empty and half-smashed beer bottle at the crime scene. Blood from Linda was found on the bottle. The analysis of the bottle revealed no other traces.
- The label of the beer bottle was Three Towns—a rather rare label.
- The police officers interviewed people who were at the party that Linda had attended. Every witness who reported to have seen Linda saw her at the party for the first time.
- One of the beer brands sold at the party was Three Towns. The Three Towns bottle that was found at the crime scene had the identical design to the Three Towns bottles sold at the party.
- One witness reported that a man named Frank (whom he had known from before) had left the party right after Linda. The witness had seen Frank walking behind her. He remembered that Frank had a black backpack.
- No one at the party (including the bartenders) remembered if Frank bought any alcohol. Nobody recalled seeing Frank drinking alcohol, either. However, one witness reported to have seen Frank almost falling down the stairs because he was drunk.
- Another witness said that Frank had a red sweater on that night.
- The police officers found one security camera along the route from the party venue to the Riverside Park. The camera monitored the entrance of a supermarket. The footage showed that at 1:08 AM, a person who looked like Frank was walking about 20 feet/6 meters behind Linda. He was wearing a sweater and a backpack matching the witness statements.

- Frank has no prior criminal record. He is a 23-year-old high school dropout who runs a small auto repair shop inherited from his father. He lives in a shared flat that is about 20-min walking distance from the party venue.
- Here is a drawing of how the relevant locations are situated in relation to each other (remember that the park is about 1.3 miles/2 km away from the party venue):



- The police arrested Frank at his repair shop a week after the murder (imagine that is today).
- This is what he said during his preliminary interview:

> *"Yes, I was at that party on May 2nd. I've quit drinking recently, and the party was really boring without drinking anything. So I left around 1:00 AM and was home about 20 min after that. Look, I don't even know the girl who was killed. You have the wrong person I have nothing to do with this!"*

- The police officers went to Frank's apartment to interview Frank's housemate. The housemate said that he and Frank were not particularly close but that they got along OK. According to his housemate, Frank sometimes over-drinks and then gets very aggressive. Here is the housemate's statement:

> *"The night of the crime I was watching my favorite show on TV it airs really late. By the time the show was over at 2:30 AM, Frank was still not home. I went to bed right after the show and don't know when Frank came home. I didn't fall asleep or go to any other room while I was watching the show. Also, Frank needs to walk through the living room (where I was sitting) to go to his room. So there is no way I could have missed him if he came home before 2:30 AM."*

- The police officers searched Frank's apartment. During the search, they checked Frank's browser history, which revealed that he had visited Linda's Facebook profile 2 days before the crime was committed. Forty-four different picture links had been accessed, and Linda was present in almost all the pictures. Neither a black backpack nor a red sweater was found during the search.
- The police checked Frank's cell phone records. The records showed that he had made two calls on the night of the murder, at 3:00 AM and at 4:15 AM, each of which lasted around 5 min. The police contacted the friend that Frank had called. The friend told them that he had stayed up late because it was a weekend and that they talked about mundane things in both conversations. Previous cell phone records showed that they normally do not call each other after 10 PM.